

# Municipal Journal

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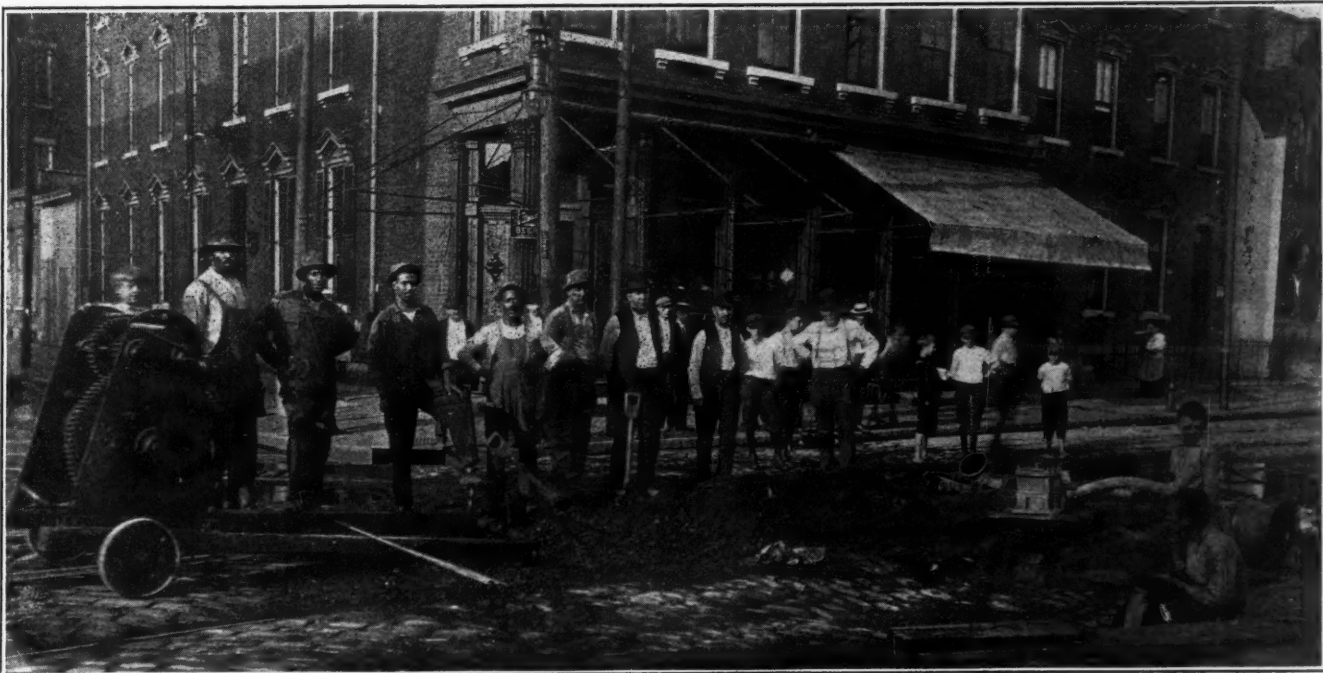


FIG. 3. DEPOSIT FROM 1,000 FEET OF 10-INCH PIPE. CINCINNATI, AUGUST, 1912.

## CLEANING CINCINNATI WATER MAINS

Necessity for Cleaning.—Amount of Work Done During Past Five Years.—Cost Per Foot of Each Line Cleaned by City Employees and by Contract.—Methods and Results.

J. A. HILLER, Assoc. M. Am. Soc. C. E. Superintendent of Distribution.

Prior to the latter part of the year 1907 the City of Cincinnati was supplied with the unfiltered water from the Ohio River, the turbidity of which ranges from seven parts per million during times of low water, to as high as three hundred parts per million during the time of floods. As a result of this large amount of suspended matter in the water, there was a considerable deposit of silt in the mains, especially where the velocity was low. Many of the pipes had been in service from thirty to sixty years. In addition to the deposit in the bottom of the pipes, many have been found to be badly encrusted, varying from a very thin scale to as much as one and one-half inches in thickness. As the consumption of water increased it became necessary to reinforce the distribution system with new and larger mains and the cleaning of others to increase their carrying capacity. This general reinforcement has been carried on during the past seven years.

### MAINS CLEANED.

The first cleaning of pipes was done during the latter part of the year 1907. The construction of the Western Hills Pumping Station made it necessary to use an old 12-in. pipe as a pump main, until a new and larger one could be laid. Upon examination it was found that this

pipe was incrustated about one inch in depth around the entire circumference, which so lessened the carrying capacity and increased the friction loss that it was desirable to have the pipe cleaned. This cleaning was done with a pressure machine in two lengths of about 2,800 feet each. The time necessary for the machine to travel this distance was about 15 minutes. The notes taken showing the reduction in friction loss through this main before and after cleaning are not available at this time, but they showed very satisfactory results.

Immediately after cleaning the above main, the National Water Main Cleaning Co., in order to show their method of cleaning small mains, cleaned about 500 feet of very old 4-inch pipe. Tests showed that the capacity of this main was increased about 125 per cent.

During the year 1908 about 27,600 lineal feet of mains ranging from 6 to 20 inches in diameter were cleaned. The work done during this year required that the carrying capacity of mains cleaned should equal the flow as shown by the Hazen-Williams formula, with  $C$  equal 100. Pitometer gaugings were made after cleaning and the results agreed practically with this requirement. No gaugings were made before cleaning, hence no information is available showing the increase in flow due



FIG. 2. LARGE WINDLASS PULLING GO-DEVIL.

to cleaning. The 16 and 20-inch main in Freeman avenue was found to be fully half filled with mud for a length of about 4,500 feet, as well as being badly encrusted on the upper half of the circumference.

During the year 1909 only about 4,000 feet of 6 and 10-inch mains were cleaned, these mostly by the water works employes, with machines owned by the department.

During the year 1910, 11,000 feet of 20-inch main was cleaned. This was one of the oldest mains in the city and was found to be very badly incrustated and in many parts contained a large amount of deposit. During the year 1911 21,500 feet of 8 to 20-inch mains was cleaned. During the year 1912 49,000 feet of 8, 10 and 12-inch mains have been cleaned.

Table I. shows a summation of the various mains cleaned to date, with lengths and cost per foot.

TABLE I.

Name of Street.	Size of main, ins.	Length of main, ft.	Cost per foot, cts.
1907.			
Grand ave. and Shadwell st.	12	5,600	26
German st.	4	500	..
1908.			
Chase ave.	6	2,070	15
Blue Rock st.	8	2,652	16
Spring Grove ave.	10	7,215	17
Eastern ave.	10	10,107	17
Eastern ave.	8	953	16
Freeman ave.	16	3,190	22
Freeman ave.	20	1,405	25

1909.			
*Gest st.	10	1,800	10
*Filmore st.	6	550	10
Main st.	10	1,600	20
1910.			
Third and Front sts.	20	11,000	19½
1911.			
Sixth st.	16	13,000	17
State ave.	16	2,000	17
Sixth st.	19	3,700	24
Seventh st.	10	1,900	24
Seventh st.	8	865	22
1912.			
Auburn ave.	8	3,600	19½
McMicken ave.	8	800	19½
Sixth st.	8	3,900	19½
Walnut st.	8	900	19½
Court st.	10	3,400	20
Freeman ave.	10	4,100	20
Liberty st.	10	3,800	20
McMicken ave.	10	4,500	20
Race st.	10	6,800	20



FIG. 4. FLOW OF MUDDY WATER AFTER CLEANING.

Richmond st.	10	3,500	20
Twelfth st.	10	2,800	20
Grandin rd.	10	6,600	20
Sycamore st.	10	2,300	20
Cutter st.	12	4,700	22

\*Work done by water works employees; cost of labor only given, no street restoration charges or superintendence added.

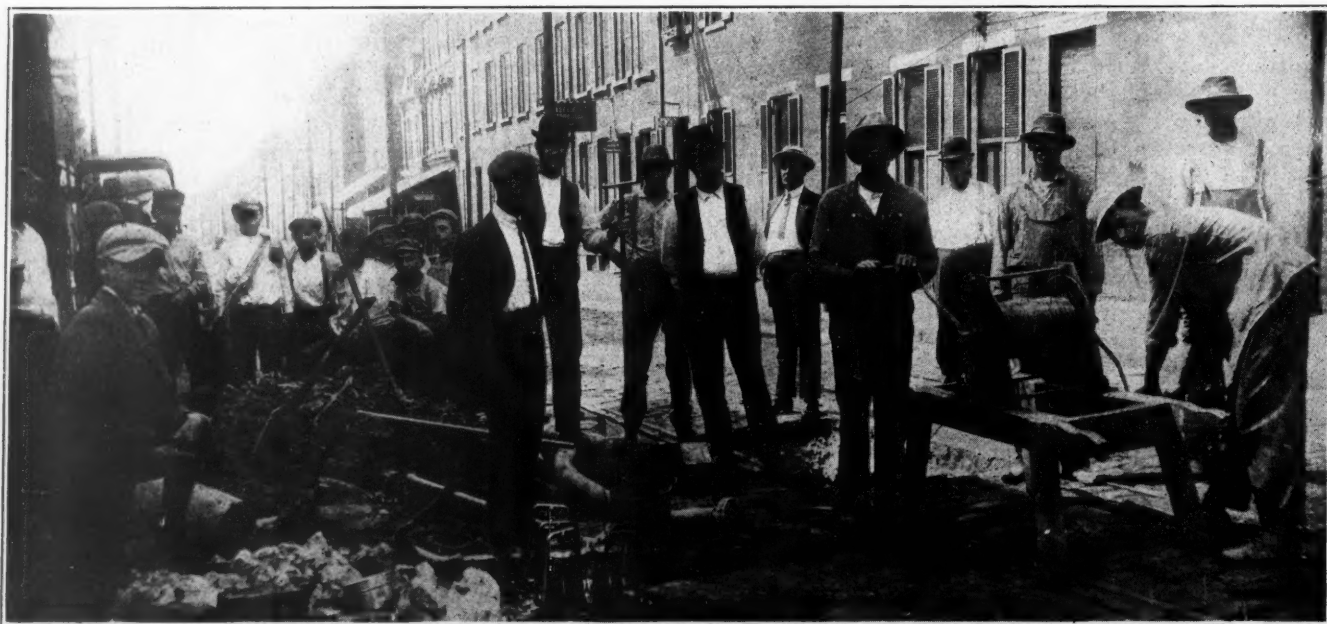


FIG. 1. SMALL WINDLASS DRAWING IN CABLE.



There remains many miles of old mains whose usefulness would be greatly increased by cleaning and it is the intention of the department to continue this work as rapidly as funds are available.

#### METHOD OF CLEANING.

The machine used for cleaning is that commonly called a "Go-devil," which consists of a series of drums linked together, upon which are fastened a number of scrapers, some tooth-shaped, some smooth, some plow-shaped. The drums are followed by a plunger, fitted with a cup-shaped leather washer or ring, for holding the pressure of the water behind the machine. An opening is left in the plunger of sufficient size to allow enough water to pass for the carrying of the scrapings ahead of the machine.

Two types of machines are used, one drawn by a cable, the other a pressure machine. The cable machine is used for 4, 6, 8 and 10-inch pipe, the pressure machine for all larger sizes. However, when the pressure is high, a pressure machine can be used for 10-inch pipe. The mode of proceeding, when a cable machine is used, is as follows: The excavation to the main at two points, about 1,200 feet apart, the cutting out of about 5 feet of the main, the introduction of a carrier (a cone-shaped leather plunger) which carries a small cable (5-16 inch)



FIG. 5. FLUSHING 8-INCH PIPE AFTER CLEANING.

to the other opening. With this small cable a larger cable ( $\frac{5}{8}$ -inch) is drawn through the main, the go-devil is attached to the larger cable, this opening in the main is closed, water is turned on and the machine is pulled through the pipe by means of a large windlass.

The use of the pressure machine is similar to the above, except that no carrier is used and no cables are necessary. The machine is inserted, the water turned on and the machine is forced by the pressure of the water to the next opening.

In all cases the water is allowed to run from the open end of the pipe, after the passage of the machine, until clear.

The cable machine is limited to use in lengths of about 1,200 feet, while the pressure machine can be used for lengths up to 3,000 or 4,000 feet, depending upon the size of main, amount of pressure and the condition of the pipe to be cleaned.

#### DIFFICULTIES.

The cleaning is not always as simple as would appear from the above description. During cleaning the machine is often stopped by unknown bends or valves, or partly closed valves, or accumulations of lead which has run into the pipe, due to badly yarned joints. Pieces of lead weighing fifty pounds have been brought out by the machine, as well as sticks, stones and other foreign material. With the cable machine there is little trouble in locating the obstruction, but with the pressure machine, its location is difficult to determine. In any event an additional opening must be made in the pipe,



FIG. 6. HOSE STREAM BEFORE CLEANING PIPE.

the obstruction removed, the opening closed and the machine sent on its way.

Since 1908 no tests have been made to show the carrying capacity of cleaned mains, but the results of the work for that year, the observations made of the inside surface of pipes and the quantity of material removed, have convinced the writer that the work is well done and the expense of testing can be saved.

#### DESCRIPTION OF PICTURES.

Figure 1 shows small windlass, pulling the larger cable into the pipe.

Figure 2 shows large windlass, pulling Go-devil through the pipe. This is the actual cleaning operation. Note the discolored water flowing from open end of pipe.

Figure 3 shows the deposit and incrustation from 1,000 feet of a 10-inch pipe. This is but a portion of the material removed, a large part of the mud and much of the scale having been washed into the sewer by the flow of the water.

Figure 4 shows the flow of muddy water from a 12-inch pipe, immediately after a pressure machine passed through. Machine is in front of pipe. This main was fully one-half filled with mud.

Figure 5 shows the flushing of 8-inch main after cable machine has passed through.

Figure 6 shows a stream issuing from a fire hose before cleaning a 4-inch main.

Figure 7 shows a stream issuing from the same hose after the 4-inch main was cleaned. The work shown by the last two pictures was done in Newport, Ky., it was not done under the writer's supervision but came under his observation.

All pipe cleaning except during 1907 has been done under the direction of the writer. All work, except that done during 1908 and 1909, has been done by the National Water Main Cleaning Company, represented by Mr. Michael Morsant.



FIG. 7. HOSE STREAM AFTER CLEANING.

## DISPOSAL OF SUPERFLUOUS ANIMALS.

### Appliances Used in Boston for Humanely Killing Dogs and Cats by Electricity and Destroying Their Bodies.

Under the title of "The Humane and Sanitary Disposal of Superfluous Animal Life," W. F. Morse presented a paper before the American Public Health Association in which he described the appliances employed by the Animal Rescue League of Boston for killing and destroying the bodies of animals, both large and small, which they found desirable to put out of the way.

This society was formed in 1899 and occupies a large home at 51 Carver street, where there are large enclosed yards, many rooms for the various classes of animals and ample space for reception, examination and oversight of the smaller animals, together with the apparatus for disposing of them. The league also owns a country annex and home for horses just outside of Boston and has five branch receiving stations at various points in the city. During the past year, more than 23,000 cats and kittens, 5,454 dogs, and 175 horses, besides birds, rabbits and squirrels passed through the hands of the league.

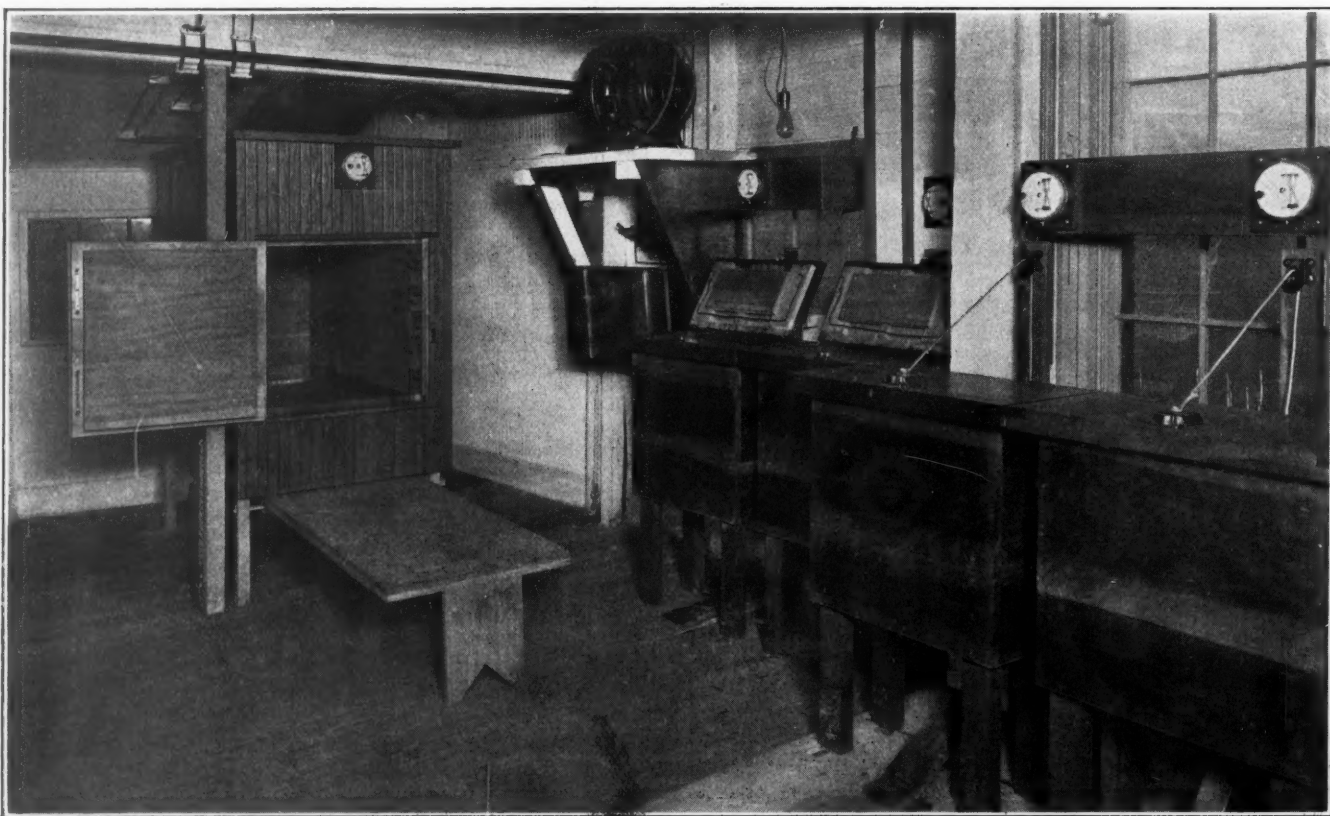
While the society endeavors to find comfortable homes for the best animals that come into their possession, still the life of a far larger number must be ended immediately after they are received, either from sanitary considerations or because of the cost of keeping them, and often as a humanitarian relief from suffering.

The methods employed by most of such societies and at the pounds of most cities are slow strangulation by illuminating gas or charcoal fumes, administering active poisons or chloroform, or shooting. Each of these is considered open to objection because of the greater or less period of suffering to the animal or possible danger to the health or life of the operator. After three or

four years of study and experimenting, the managing director of this society, Huntington Smith, designed an apparatus which is believed to avoid these objections. This employs electricity, which gives instant loss of consciousness and quick death, and is automatic in action and leaves the animal in a condition which is not at all repellent to the sensitive. The apparatus now employed in Boston is installed at the headquarters of the league and consists of one cage for dogs and four cages for cats. It is operated by one man, who can destroy 200 cats or 100 dogs an hour by it, while two men can destroy 300 animals an hour.

While working out the details of this apparatus, it became evident that on account of radical differences in temperament and disposition as well as in size, dogs and cats would require entirely different types of apparatus. Dogs are used to wearing collars, and, if they have comparative freedom of movement in a large, well-lighted and ventilated cage, they enter and remain in such an enclosure without protest. Cats, on the other hand, do not submit readily to the collar and lead. If they can be placed comfortably in an open box and lapse to unconsciousness the instant the cover is closed, they can be absolutely killed without preliminary terror.

The dog cage stands on legs about 18 inches high and occupies a floor space of  $2\frac{1}{2}$  feet wide by 5 feet long, being large enough to receive any dog up to the largest St. Bernard or mastiff. The top of the cage, which is about 6 feet from the floor, is of glass, and a mirror placed over it at an angle of 45 degrees gives a good view of the interior. In this is an inner cage, which is electrically insulated, and so arranged that it cannot be touched by a person outside when the door is closed. This inner cage has a metal pan on the bottom and on metal bars on one side hang strong spiral springs with snap locks at their lower ends. When the door is open no current can enter the cage. When the door is closed, the current passes to a transformer



AUTOMATIC ELECTRIC CAGES OF BOSTON'S ANIMAL RESCUE LEAGUE.  
Dog cage at left, four cat cages at right. Reversed rotary for generating current on bracket in center.

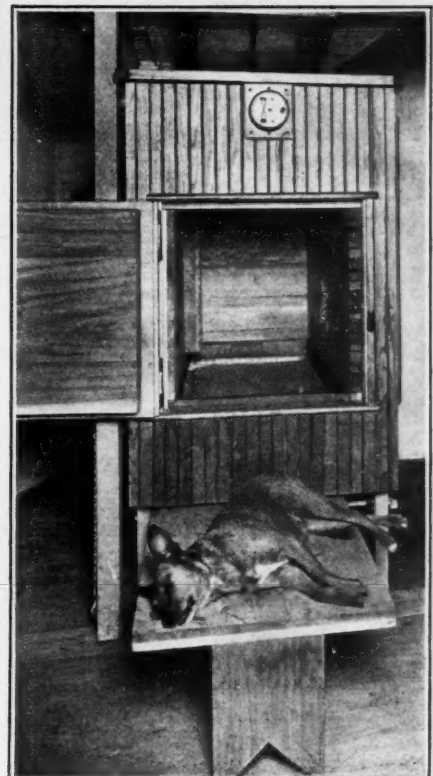




DOG IN CAGE READY FOR ELECTRIC SHOCK.



DOG RECEIVING ELECTRIC SHOCK.  
The attitude of the animal depends on its position when the circuit is completed. The eyes are always closed and the limbs rigid.



THIRTY SECONDS LATER.  
The eyes open as soon as the electric circuit is broken, and the body is relaxed.

at the back of the cage and from it at high potential to the metal bars on the inner cage. To use the cage, a flexible metal collar provided with suitable electrode points is placed on the dog, the dog is placed in the cage and the end of one of the spiral springs is hooked to the collar. The spring slides readily on the metal rod and gives the animal freedom of movement. The instant the door is shut the animal gets the full force of the shock and lapses at once into unconsciousness.

The cat cage is set on legs which bring it to a height convenient for the operator and occupies a floor space of about 2 feet square. In this is an inside cage, insulated from the outer box and constructed of slate with moisture-proof joints and having at the bottom two electrodes separated by an intervening space and an insulating strip. These electrodes extend up the ends of the box and are so arranged that they can be easily removed for cleaning. As in the dog cage, by the closing of the cover the primary current is brought to the inside of the outer cage where there is a transformer, and the secondary current at high potential passes to one of the electrodes described. The cover is equipped with a cord, pulley and treadle, so that the operator can lift it by foot pressure and thus have both hands free to manage the animal. Taking a cat in both hands he places it in the box in such a way that the two fore feet of the animal are on one electrode and the two hind feet on the other; in which position the cat is perfectly comfortable and has plenty of light and air. The instant the cover is closed, the electric circuit is completed and the cat becomes unconscious.

The time allowed for the killing of the average cat is one minute, and for the average dog half a minute. The difference may be due to the greater inherent vitality of the cat, to its organic resistance to the electric current, or, what is more probable, to differences in contact, owing to dryness of skin, fineness and density of fur, etc. This element of time is apparently essential to death by the electric current, and experience would



REMOVING CAT FROM CAGE AFTER ELECTRIC SHOCK.

seem to indicate that there would be no material decrease in time if a much higher voltage or greater volume of current were provided. In no case where measurements have been made has the amount of electrical energy taken by the animal nearly approached the maximum available.

There is nothing repulsive about the bodies as they are taken from the cages, but, were it not for the widely open eyes, they would to all appearances seem to be asleep. This process seems to come as near as we can reasonably hope to attain to absolute euthanasia. Where alternating current is commercially available, the cost of the process is so slight as to be almost nominal. At the league, where it was necessary to install a reversed ro-

burners placed at the rear end. These burners are connected to a header and this with a pipe line from the street main and meter. Valves control the volume of gas and a small motor and air compressor supply the air pressure to the burners.

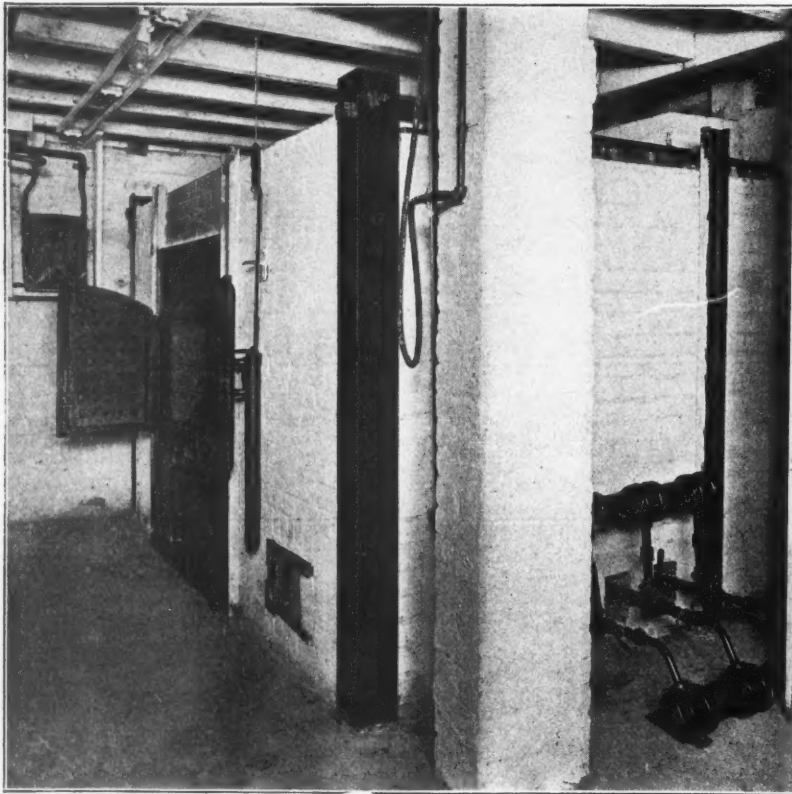
Between the upper chamber and the chimney flue is a series of chequer work, perforated fire brick partition walls, which become highly heated and complete the combustion of the smoke and inflammable gases before they are allowed to pass to the chimney. The operation is conducted by first raising the temperature of the upper chamber and connecting brick work to 1,250 degrees, and at once placing the charge through the side door upon the fire brick grates. The heat is then raised to the necessary destroying temperature of 1,500 to 1,900 degrees and continued at this until the cremation is half completed, when the burners are gradually cut off and the incineration is completed by the contained and radiated heat of the interior. This furnace went into use in October, 1910, and in the succeeding fifteen months destroyed upwards of 100 tons of animals with an expenditure of gas averaging from 2,500 to 2,800 cubic feet per day. The rate of combustion and the amount of gas required varies with the calorific values of the material consumed, depending mainly upon the quantity of fatty matter contained. For instance, one charge of 800 pounds was consumed using only one-half the power of one burner, while in another case the gas was used only one-half the usual time. In the six months from February 1st to August 1st, 1912, 110,300 pounds were burned in 456 hours with 321,000 feet of gas. This gives a gas consumption per pound of material burned of 2.91 cubic feet, and a rate of combustion of 4.39 pounds per minute. The average of seven runs was 1,400 pounds burned at the rate of 3.69 pounds per minute with a gas consumption of 2.35 feet per pound of material destroyed.

All of the apparatus of the electric cages is contained in a room 15 feet long and 8 feet wide, and the destructor, motor and air compressor occupy about the same space on the floor below.

The plant has recently been operated at the average rate of 2,500 animal bodies per month, and although in daily continuous use has required no repairs and is said to be entirely sanitary and satisfactory in operation.

#### SCHOOL BOARD FOR NEW BEDFORD.

The people of New Bedford have, by their votes, accepted an act of the state legislature changing the city charter so far as the school committee is concerned. Instead of the present committee of eighteen members elected for three-year terms, one each year from each of the six wards of the city, there will be after January 1 a school board of six members elected at large for three-year terms, to serve without salaries. The mayor will be the ex-officio chairman of the board, which will have entire charge of all school affairs, and will annually elect a superintendent of schools together with other officials of the school department. No lot may be purchased by the city for school purposes without the consent of the school board, and no new school building erected or repaired without the plans having first been approved by the board.



CREMATORY FOR DISPOSING OF BODIES.

tary to obtain an alternating current, the approximate cost, including the losses in the electrical machinery, figures out less than one-fifth of a cent for each animal destroyed, with the D. C. meter rate at 10 cents per kw. h.

The sanitary disposal of such a large number of animals presented another problem to the league. It was required to dispose of an average of 600 to 800 pounds of animals in two hours' time without creating odors or smoke which could be regarded as a nuisance in a thickly-settled part of the city. To meet this condition, Mr. Morse designed a crematory, 9 feet long, 6 feet wide and 5½ feet high, which was placed in the room immediately below the electrical cages. The furnace is built throughout the interior of highly refractory fire brick, with exterior walls of red brick, reinforced by vertical and horizontal steel bands. There is one large charging door and a lower door for removing ashes. The interior is divided into two chambers by a transverse, horizontal arched partition of fire clay moulded blocks.

The upper chamber has a capacity of 600 to 800 pounds of bodies for one charge. The lower and smaller division acts as a primary combustion chamber for the heat derived from three large specially designed gas



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## CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper, either in the form of special articles or of letters discussing municipal matters, are invited and paid for. Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

NOVEMBER 28, 1912.

## CONTENTS

Cleaning Cincinnati Water Mains. (Illustrated). By J. A. Hiller .....	793
Disposal of Superfluous Animals. (Illustrated).....	796
School Board for New Bedford.....	798
Unnecessary Paving Expenditures.....	799
American Society of Municipal Improvements Convention.	800
News of the Municipalities. (Illustrated).....	804
Legal News—A Summary and Notes of Recent Decisions.	812
News of the Societies .....	813
Personals .....	814
Municipal Appliances. (Illustrated).....	815
Patent Claims. (Illustrated) .....	817
Industrial News .....	817
The Week's Contract News.....	818

## Unnecessary Paving Expenditures.

During the past few years opinions have been expressed by a number of engineers and city planning experts that in many cases the roadways of city streets are made unnecessarily wide. It is probable that the unfortunate experiences of most of our older cities, in finding the roadways as laid out years ago to be inadequate for present traffic, have been to a considerable extent responsible for the fact that the newer cities have gone to the other extreme. But it would seem to be fully time that they should realize to what an extent the extreme widths which many of them have adopted affect their treasuries and their abilities to devote public funds to other and more necessary purposes.

In city after city throughout the states west of the Ohio river may be found the condition referred to. Comparatively small cities whose street traffic is principally that of the county seat of an agricultural district, with a few moderate sized manufacturing industries, are found with streets the majority of which have roadways 50, 60 and even 80 feet in width and paved from curb to curb, generally with brick or asphalt. In few if any of these are even the narrowest of these widths necessary

for existing traffic outside of an area extending for two or three blocks from the centre of the city on the two main thoroughfares intersecting at that point; in most of them a 30-foot roadway would be ample, except where there is a double track street railway. When permanent pavements of these unnecessary widths are extended over all streets, both residential and main thoroughfares, throughout the built-up section of the city, there is in our opinion a waste of public funds amounting in many cases to 50 per cent. of the amount so spent. Part of this is due to unnecessary width of roadway pavement, and part to unnecessarily expensive character of pavement in lightly travelled residence side streets.

We have never heard an argument based on economic considerations which would justify many of the extreme roadway widths to which we have referred. But the above statement may be criticized on the basis that a brick pavement, for instance, which if well laid should have a life of say 50 years, is more economical in the long run than a good macadam or gravel street which requires more or less maintenance. It seems to us, however, that there are some present necessities which are more essential than future economies. For instance, in many of the cities which we have visited recently where these wide streets exist, we have found the sewerage system totally inadequate. In several of them fully 75 per cent. of the residences were not served by the sewer system, but continued to use the primitive outdoor closets, while almost as great a number used shallow wells which, in connection with the other practice would certainly hardly be considered conducive to the health of the community. In some cases the excuse for the private wells has been that the public water supply is either equally unsafe or is unsatisfactory because of its muddy appearance or other undesirable physical properties. Certainly an adequate sewer system and a safe and acceptable water supply should be provided in such cities before unnecessary expenditures are made for ultra-wide and permanent pavements on all streets. Especially as, in our opinion, such wide pavements are undesirable, and moreover must be cut into when the imperative requirement for sewers is finally met.

Another phase of the same subject is the fact that in many cities storm sewers which were originally barely ample have been rendered totally inadequate for the duties imposed upon them by the construction of unnecessarily wide roadways covered with impervious pavements which immediately shed all rainfall into the sewers. Illustrations of this may be found in a number of cities in the southwest, especially in the state of Texas, where these conditions are so extreme, and yet so generally accepted as more or less a matter of course, that sidewalks throughout the business districts are built from 15 to 30 inches above the roadway in order to avoid flooding of cellars and basements as well as of the sidewalks themselves; it being no unusual thing for the water to stand 12 to 15 inches deep over the roadway after heavy rains. In a great many of the streets in all of these cities the roadway pavements could have been confined to 50 or at least 75 per cent. of their present widths without seriously inconveniencing any traffic which they are called upon to carry; and if the money saved thereby had been devoted to increasing the sewer capacity, certainly the greater part if not practically all of this flooding of streets, and the objectionably high curbs, might have been avoided.

At stated, the older cities of the country and of Europe have furnished examples of what to avoid in the way of narrow roadways. We trust that, in future city planning, the lesson of the undesirability of too wide roadways will be equally well taken to heart.

## AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS CONVENTION.

**Nineteenth Annual Meeting at Dallas, Texas, November 12 to 15.—Specifications Adopted for Wood Block Pavement.—Sewer Specifications Fully Discussed and Adoption Postponed for One Year.—**

**Other Business.—Many Important Papers Read.**

In some respects the nineteenth annual convention of the American Society of Municipal Improvements was one of the most successful, if not quite the most successful, which the society has ever held. Although Dallas, Texas, where the convention assembled this year, is further from the homes of most of the members of the society than they have ever before been asked to travel for this purpose, the number who registered was nearly as great as at any previous convention; while it is doubtful if the regular attendance at all sessions has, at any previous convention of this society, or in fact of any of those dealing with technical or semi-technical matters excepting the five or six largest national societies, been so large and so earnestly interested in all which was taking place. Another indication of the hold which the society has upon city officials interested in municipal improvements is the fact that members were present from the far northwest—Seattle and Spokane, Washington; Calgary, Alta., Canada; from New England in the northeast, from Georgia and Alabama in the southeast, and from most of the other states and several Canadian cities.

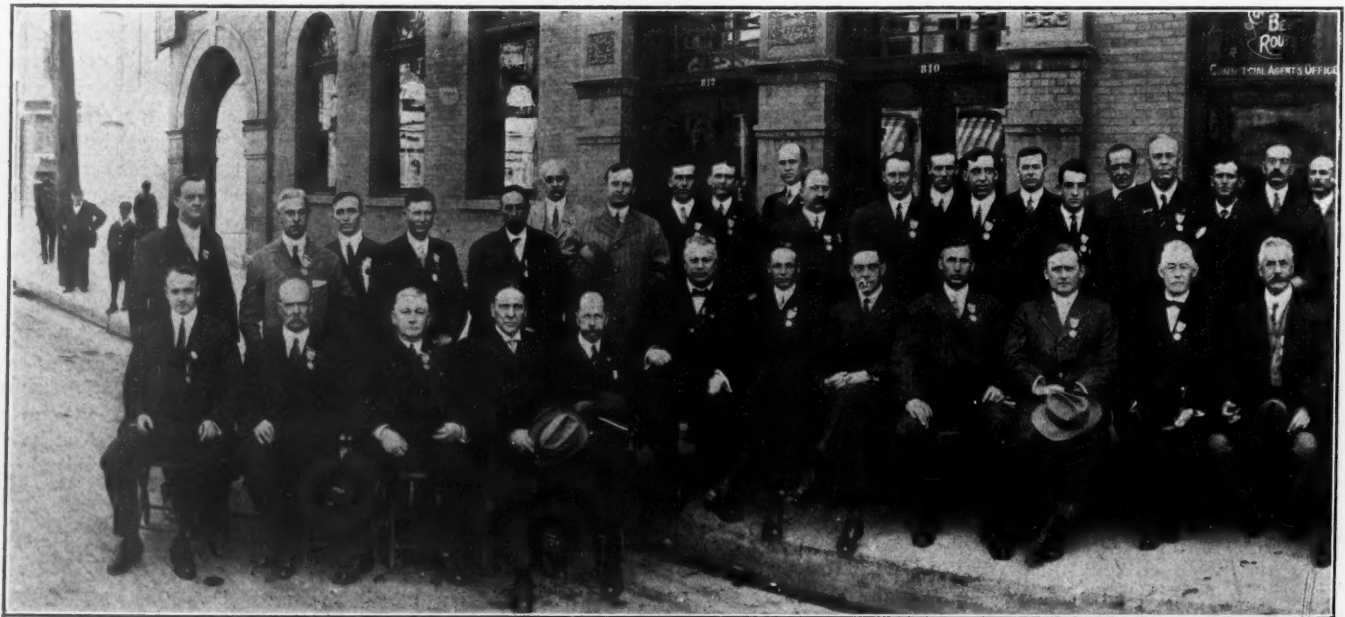
As is the case with all conventions of this society, most of the time was given up to business matters and the serious discussion of municipal problems. The city had been requested to so limit its entertainment that not more than three sessions would be interfered with thereby, and this consisted of an automobile ride on Tuesday afternoon through some of the principal streets of Dallas, ending at the club and golf grounds outside of the city; a banquet on Wednesday evening tendered the society by merchants and citizens of Dallas; and a visit during a part of Thursday afternoon to two large cement plants and the oil refinery of the Texas Company. This was all according to the program, and in fact the program was carried out in all particulars except that on Wednesday evening the discussion of standard specifications was extended to include a part of the sub-divisions scheduled for Thursday morning.

The evening session of Thursday was continued well into the night, and practically all of Friday was consumed in a visit to Fort Worth, a trolley ride around that city and to the large reservoir dam which is under construction, the works where the Parmley concrete pipe is being constructed for the water works plant, the packing houses (where a light lunch was furnished) and other points of interest. Returning to Dallas, something over fifty of the members and their wives took the sleeper Friday night for Houston, where they were met by city officials, entertained at breakfast, given a hasty view of the city (which was enlivened although somewhat interfered with by the carnival then in progress) and about noon hurried on to Galveston, where the sea wall was the especial point of interest. After a supper of gulf oysters the party broke into small fragments, some visiting San Antonio, some remaining in Galveston, others taking various routes homeward.

The secretary's report showed that 88 members had been admitted during the year which, after allowing for those which had resigned, died or been dropped for non-payment of dues, brought the membership of the society over the 400 mark. The reports of the treasurer and of the finance committee showed that the society was in a most healthy condition financially, in that it had no outstanding indebtedness, had over \$1,200 in the treasury, and several hundred to its credit in the form of unpaid dues.

Minor changes to the constitution were made at the recommendation of the Executive Committee, these providing that in future election to the society become effective upon the payment of the regular dues to the end of the current fiscal year; and that the Committee on Convention Papers (a new committee provided for last year) should consist of the secretary of the society as chairman, together with two other members.

Among the other matters of a business nature taken up by the convention, none created quite so much discussion as the proposition or suggestion from a com-



A GROUP OF MEMBERS OF THE AMERICAN SOCIETY OF MUNICIPAL



mittee of the Association for Standardizing Paving Specifications looking to an amalgamation of the two societies. No question was raised as to the desirability of this amalgamation, but a general disapproval was expressed of the terms of such amalgamation suggested by the committee of that association. The points which were especially disapproved of were those providing that all members of the A. S. P. S. should be required to pay as dues to the society \$3 instead of the \$5 regular dues, so long as there remained sufficient money of that now in the treasury of the A. S. P. S. to pay such dues; and another providing that members of committees of the A. S. P. S. should be members of similar committees now existing or to be created in the society. As to the former, it was pointed out that probably three-fourths of the individuals representing cities which are members in the A. S. P. S. are already members of the society, and that thus the amalgamation would result in a reduction of income to the society rather than an increase; to which was added the argument that many, at least, of these members had no desire to have their dues to the society decreased in this way and thus appear to be making a bargain counter deal with the society. Concerning the matter of committees, it was pointed out that the membership of committees of the A. S. P. S. is considerably larger than that of similar committees of the society, and that the combining of the two committees would result in the younger and smaller society having a larger representation on each committee than the American Society of Municipal Improvements. The discussion finally resulted in the adoption of a resolution that three members of the society, who are also members of the A. S. P. S., be instructed to present at the convention of the latter organization (which meets at Pittsburg early next year), a cordial invitation from this society to join with it as individuals, leaving to that organization to determine whether and in what way it shall appropriate any funds remaining in its treasury toward the payment of the dues of such members, said dues to be unmodified by any agreement between the organizations.

On Wednesday officers of the society for the ensuing year were elected as follows: President, B. E. Briggs, city engineer of Erie, Pa.; First Vice-President, Edward H. Christ, of Grand Rapids, Mich.; Second Vice-President, William A. Howell, engineer of the street department of Newark, N. J.; Third Vice-President, Andrew

F. Macallum, city engineer, Hamilton, Ont.; Secretary, A. Prescott Folwell, Editor Municipal Journal, New York; Treasurer, E. L. Dalton, of Dallas, Texas; Secretary of the Finance Committee, E. S. Rankin, engineer of sewers and drainage, Newark, N. J.

At the convention last year, Wilmington, Del., had stated emphatically that it intended to try for the 1913 convention, by which time it would have in readiness a large new hotel in which to house the convention. Its representatives were very active at Dallas, and in spite of several other invitations, and especially an effort made by officials and residents of Boston and neighboring cities to bring the convention to the New England metropolis, Wilmington won out; although many expressed the opinion that if Boston is still anxious for the convention in 1914 they would be heartily in favor of going there. The time of the convention will be determined later by the Executive Committee.

As to the discussions of the society upon technical matters, these practically began upon Monday, the day preceding the opening of the convention proper, when the general committee on Standardizing Paving Specifications held meetings of the sub-committees and listened to arguments of both active and associate members relative to the specifications proposed by the sub-committees. The register shows 26 as having entered their names therein on Monday, but it is probable that double this number were in the city but did not all register until the following day. As in the convention last year, the matter of standard specifications received greater attention than any other one topic; but unlike last year, it was sewerage specifications rather than paving specifications which occupied most of the time. The sub-committee on specifications for sewer construction, consisting of E. J. Fort, engineer of sewers of the Borough of Brooklyn, N. Y.; A. J. Provost, Jr., and Rudolph Hering, all well-known experts in sewerage, had prepared a most complete set of specifications for the construction of sewers covering sixty-eight typewritten pages, which represent work covering several years. This was divided into forty general headings, each with several paragraph headings, and while it seemed undesirable to read the entire specifications word for word, the main and paragraph headings were read and special attention called to provisions which were unusual or on which there is not fairly general agreement, the members being requested to ask for the reading of any



IMPROVEMENTS AT THE CONVENTION AT DALLAS, TEXAS.

paragraph which they should desire. In this way several hours were occupied, some very interesting questions were raised and discussed and, based upon this, recommendations were made to the committee that it consider carefully the decisions of the convention in these matters, giving careful consideration for another year to the specifications as a whole, and at the next convention re-submit the specifications, with any modifications which they should think desirable, for final adoption by the society as its standard specifications.

The following main headings will indicate the comprehensiveness of the specifications and also the general manner of subdividing the matter:

1, Trenches; 2, Earth Excavation; 3, Rock Excavation; 4, Backfilling; 5, Cement; 6, Mortar; 7, Concrete; 8, Brick Masonry; 9, Brick Work; 10, Cut Stones; 11, Cemented Rubble Masonry; 12, Dry Rubble Masonry; 13, Stone Ballast; 14, Structural Steel; 15, Steel Reinforcement Bars; 16, Wire Netting; 17, Expanded Metal; 18, Wrought Iron; 19, Iron Castings; 20, Timber; 21, Timber Sheeting; 22, Piles; 23, Concrete Sewers; 24, Brick Sewers; 25, Vitrified Pipe Sewers; 26, Cement Concrete Pipe Sewers Without Reinforcement; 27, Cement Concrete Pipe Sewers With Reinforcement; 28, Cast Iron Pipe Sewers; 29, Basin Connections; 30, Pipe Drains; 31, Spurs for House Connections; 32, Drains for House Connections; 33, Risers; 34, Manholes; 35, Receiving Basins; 36, Storm Water Inlets; 37, Flush-Tanks; 38, Embankment; 39, Slope Pavement; 40, Restoration of Surface and Cleaning Up.

Among the subjects receiving special attention by the convention were the classification of rock in excavation, the galvanizing of reinforcement bars and wire netting, specifications for vitrified pipe and cement pipe, and the measurement of the length of sewers, house and basin connections.

The absence of C. C. Brown, the chairman of the general committee on Standard Specifications, was greatly regretted, especially as it resulted from bereavement in his family, and the society expressed its sympathy with Mr. Brown in appropriate resolutions. In his absence E. A. Fisher, city engineer of Rochester and a member of the general committee, was appointed chairman for the occasion.

The specifications for brick were changed in two or three minor particulars, the principal object of which was to make them conform exactly word for word with similar specifications already adopted by the A. S. P. S. in New Orleans last January; which specifications were really those of this society with some minor modifications introduced. Probably about the only change in anything other than phraseology was Section 4, entitled "Rattler Test For Block Size" which now reads as follows: "The brick shall not lose of their weight more than 22 per cent. after being submitted to the following test," omitting the words previously in the specifications "for a heavy, 26 per cent. for a medium and 28 per cent. for a light traffic street" and substituting therefor a note reading "Where medium or light traffic or other conditions exist, which in the opinion of the engineer do not require a brick sufficient to stand an abrasive loss of 22 per cent., brick of a quality sufficient to stand a loss of 25 per cent. or even 28 per cent. may be used." The percentage of bitumen soluble in carbon disulphide in the asphalt filler was changed from 92 per cent to 98 per cent. The brick specifications as thus amended now stand as the adopted specifications of both organizations.

The sub-committee on Concrete Paving Specifications, F. R. Charles, F. D. Brown and C. G. Anderson, presented specifications for concrete pavement, cement sidewalks and concrete curb and gutter, in which slight

modifications were recommended by the convention. These modifications included the maximum dimension of sidewalk blocks, which maximum was reduced from eight to six feet; and the provision that the wearing surface should be troweled to a uniform plane surface and not necessarily a uniform smooth surface as originally provided. In presenting these specifications the committee expressed itself as "unwilling to recommend a concrete pavement constructed without joints, although recognizing the fact that an absolutely satisfactory method of dealing with these joints is difficult to obtain." It also appeared to be the more or less general opinion of those present at the convention that they did not wish to be put upon record as recommending concrete pavements for streets carrying any considerable traffic, but presented these specifications for the use of such engineers as had decided that they wanted to construct concrete pavements.

The specifications for wood block paving had been presented last year but were referred back to the committee, which made some minor changes therein, together with one which might be considered of more importance, namely, that the preservative used "shall be a coal tar product, free from adulteration of any kind whatever, and shall comply with the following requirements: First, the specific gravity shall be not lighter than 1.08 nor heavier than 1.14 at a temperature of 38° C. Second, on distillation, which shall be made exactly as described in bulletin 65 of the American Railway Engineering and Maintenance of Way Association, the distillation shall not exceed 2 per cent. up to 150° C., nor be less than 30 per cent. nor more than 50 per cent up to 315° C. Third, not more than 4 per cent. of the oil shall be insoluble in hot benzol and chloroform." Concerning the timber, it was specified that the yellow pine used shall be "commercial" yellow pine; Norway pine or tamarack also being permitted. To the defects excluded in the previous specifications "red heart" was added; and concerning yellow pine it was provided that "in no case in any one inch of this radius shall there be less than four annual rings. Wherever in any one inch of this radius there are less than five annual rings, the cross sectional area of each resinal ring shall not be less than 20 per cent. of the total cross sectional area of its corresponding annual ring." The specifications thus modified were adopted.

The committee on bituminous paving, which had been requested last year to inform the society this year what specifications for bituminous pavement, and particularly for what is known as bituminous concrete pavement, could be used without infringing upon any patents for this class of construction. In a brief report presented, the chairman of the committee says: "If the seal of approval of the A. S. M. I. should be set upon its efforts in this direction it is probable many engineers would feel themselves justified in following the approved specifications. If as a result municipal bodies should find themselves involved in patent litigation, this society, as well as its committee, would be seriously discredited. Appreciating the gravity of the situation, your committee has desired to proceed cautiously in the matter and not attempt to present a specification that has not been carefully considered, not only from an engineering but also from a legal standpoint." No form of specification was submitted, but the committee expressed a hope that if continued it would be able to recommend such specifications next year. Concerning this matter William W. Southgate, city engineer of Nashville, Tenn., and a member of the committee, stated that personally he believed the true position for any official to take in this matter is that "The question of avoidance of application of patents to any construction is of far less importance than the one of whether or not a construction avoiding



infringement is equal to the real thing. That being so, the attitude of such an association in adopting a standard specification should be that it provide the best construction."

Owing to the long continued sickness of William Solotaroff, superintendent of the Shade Tree Commission of East Orange, N. J., and chairman of the committee on Park Development and Maintenance, no report of that committee was presented. Maury Nicholson, of Birmingham, Alabama, and chairman of the committee on Municipal Legislation and Finance, presented a very interesting paper giving the result of an investigation by correspondence with the officials of a considerable number of cities concerning the working of various systems of municipal government, especially the various forms of commission government. Concerning municipal financial methods, he expressed the opinion that there was much more apparent satisfaction with present methods than conditions warranted. A paper entitled "The City Economic," by Louis L. Tribus, commissioner of public works of Richmond Borough, New York, was read, and the evening session concluded with the report of the committee on Municipal Data and Statistics by James C. Hallock, deputy chief engineer of Newark, N. J., and a paper by A. Prescott Folwell, secretary of the society, entitled "Standard Forms for Municipal Utilities." As a result of the recommendation of Mr. Hallock, that the subject of standard forms be taken up by a special committee and sub-committees of the society, after the manner that standard specifications have been developed by the society during the past few years, a committee was appointed to report recommendations on this subject at a later meeting; as a result of which the president appointed Messrs. Hallock, Folwell and Maury Nicholson to be the general committee on this subject, with instructions to appoint sub-committees, before the termination of the convention, if possible, so that they might begin work at once. It was expressed as the opinion of many of the members that this was a most important matter and one in which the society could be of the greatest service to municipalities. This committee was instructed to appoint sub-committees on the subjects of street paving, street repairs and maintenance, street cleaning, street lighting, sidewalks, refuse collection and disposal, and uniform bidding blanks. It is the conviction of the general committee that, while the work entrusted to them is a most difficult as well as comprehensive one (not the least difficulty being to prepare forms which will meet adoption as well as approval at the hands of city officials), by progressing slowly but with a definite aim and in conformity with a comprehensive program, much can be done toward securing uniformity in the practice of cities in keeping and reporting records concerning public work.

At the Wednesday morning session, sewerage and sanitation was taken up and the chairman of the committee devoted to that subject, A. F. Macallum, city engineer of Hamilton, Ont., presented a report and a paper entitled "Pollution of Surface Waters"; which was followed by papers on the Imhoff tank by Prof. Henry N. Ogden of Cornell University, "Sanitary Problems in a Small City" by Clark G. Anderson of Moline, Ill., "Sewerage and Sanitation" by E. L. Dalton of Dallas, "The City Engineer and Health Board" by J. M. Hazlehurst of Atlanta, Ga., followed by a short paper entitled "Method of Supporting Sewers in Deep Fills" by C. H. Baumgartner, city engineer of Dubuque, Ia., and one describing the use of cement pipe for sanitary sewers by T. C. Hughes, city engineer of Tulsa, Okla. Some discussion was added concerning the Imhoff tank and septic tanks, and concerning the use of cement pipe

for sanitary sewers and especially concerning the methods of manufacture.

On Wednesday afternoon, the reports of the committee on standard specifications and the several sub-committees were taken up, the actions and discussions of which have already been referred to.

Thursday morning was devoted to a discussion of the report of the subcommittee on sewer specifications and the report of the committee on Traffic on Streets, J. W. Howard of New York, chairman. The importance of the latter subject was generally recognized, and the committee was requested to consider the matter further, together with the discussion held upon this preliminary report, and to report next year a form and method for taking traffic censuses to be approved and recommended by the society. The papers on "Effect of Traffic on Bituminous Pavements," "Testing Bitumens," and the report of the committee on Street Lighting were read by title only, as the authors were not present and as time was pressing.

On Thursday evening, some financial business was transacted, a paper on the "Durability of Grouted Granite Pavements" read by William A. Howell, engineer of streets and highways of Newark, N. J.; following which there were read two papers illustrated with lantern slides, one by James E. Howard of the Bureau of Standards, Washington, D. C., entitled "Thermal Effects on Cement Filled Brick Pavements," in which the author showed by excellent photographs the effects of expansion and contraction on brick pavements under various conditions of location and methods of construction; and one by J. C. McCabe, of Detroit, Mich., describing a method of testing brick pavements recently adopted in that city.

In adjourning the convention for the year, the society expressed its thanks to the local entertainment committee, E. L. Dalton, J. M. Preston and A. H. Johnson, to Mesdames Dalton, Preston, Irving, Smith and Alexander for their personal interest and efforts in the entertainment of the delegates and ladies accompanying them, to the Dallas Chamber of Commerce, Auto Club and the Golf Club for courtesies extended, to Frank B. Dunn for floral decorations in the convention hall, and to the local press, and especially the "Dallas News," for attention given to the meetings of the society. Thanks were also extended to the United States Government for the study which it has begun, through the Bureau of Standards, of the physical characteristics of street pavements, a part of which study had formed the basis of Mr. Howard's paper referred to above.

#### Assessments at Beaumont, Texas.

In our issue of October 17 we described the method of assessment employed at Houston, Tex., with the increased income to the city resulting. Beaumont, 90 miles away in the same state, after learning of Houston's experience, decided to adopt practically the same system, the citizens voting in favor of it 501 to 71 on July 31 last. About a month ago the work of the assessors was concluded and reported to council. About two weeks after the assessors had begun their work, thirteen large landowners unsuccessfully endeavored to enjoin the use of the system; and the probable reason therefor was found in the fact that they were among the 63 taxpayers whose assessments were increased by a total of \$1,154,351. A much greater number of assessments were lowered—942; 286 property owners were found to have been unassessed before, a total of \$205,870 being assessed on property which had before entirely escaped. The assessment of 1911 on a 60 per cent. basis had been \$15,731,433. That of 1912 on a 50 per cent. basis was \$1,539,162 greater, or nearly 10 per cent.

## NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest Under Consideration by City Councils and Department Heads—Streets, Water Works, Lighting and Sanitary Matters—Fire and Police Items—Government and Finance.

### ROADS AND PAVEMENTS

#### Use Engine to Build County Roads.

Jackson, Ga.—Butts county, through County Commissioner J. O. Gaston, has just bought a traction engine to be used on the public roads of the county. It is a 30 horsepower gasoline engine, and more and better work can now be done by means of this machine. Mr. Gaston will add some heavier equipment to the county's road machinery and hopes to be able to do more work this fall than ever before. The road machine is now getting a try-out on the roads in Worthville district.

#### Build Mile of Road in One Day.

Muskogee, Okla.—A mile of model dirt road was built in a day from the Connors state school near Warner, in Muskogee county, to the town of Warner. The work was done under the direction of Colonel Sidney Suggs, state highway commissioner, and W. R. Goit, state road engineer. Farmers furnished teams, worked without charge, and business men of Warner furnished the money for a concrete culvert.

#### City Forces Lay Wood Block Paving.

Bridgeport, Conn.—A force of men in the employ of the public works department have commenced work resetting the curbs on Elm street in preparation for the wood block pavement which is to be laid on the street from Broad to Harrison street. The work will be pushed to completion so that the actual work of paving the street may start as soon as possible. It is the intention of the city to lay this pavement before winter sets in. The wood block pavement on Elm street was approved several months ago by the common council, but the resolution was not approved by Mayor C. B. Wilson, because he desired all the time necessary for the Fairfield avenue paving. However, the council passed the resolution over the Mayor's veto and now the work will be carried out.

#### New Road System Nearly Finished.

Los Angeles, Calif.—The new system of highways in Los Angeles county is practically complete, according to an announcement made by F. H. Joyner, chief highway engineer. Mr. Joyner stated that the new system will be actually completed July 1. It is planned to hold a celebration at that time. According to figures given out by Mr. Joyner, only twenty and thirty-six miles of road under the new system of practically 300 miles remains uncontracted for. The total of completed roads is 245.63 miles. "I believe," said Mr. Joyner, "the county has every reason to congratulate itself on the practical completion of the highway system. Every mile of road provided for by the \$3,500,000 bond issue is strictly first class and will stand the test of time. Of course, the date I set for completion of the system, July 1, 1913, cannot be depended upon absolutely, but I think it will be pretty sure to stand."

#### Money Voted For Highways.

Hurley, Wis.—Full reports have been received by the Wisconsin highway commission of the money voted for state aid road and bridge construction in 1913. There are 1,195 towns in Wisconsin, of which 865 voted for state aid road construction on 1,267 different pieces of road, asking for state aid to the total amount of \$757,273. Two hundred and five towns voted for the construction of 337 bridges, a total amount of \$107,754, which calls for \$53,877 state aid. In all, 884 different towns in sixty-eight counties voted for state aid a total amount of \$865,027, calling for the sum of \$811,150 in state aid. These figures show a very large increase, both in number of towns, voting and amounts

voted, over last year. Last year 511 towns voted a total of \$422,200 for roads, and 125 towns voted \$55,100 for bridges; in all 532 towns in 65 counties calling for \$452,800 state aid in 1912. The state highway fund for 1913 work is \$350,000, to which is added in accordance with law, one-quarter of the net proceeds from the automobile license of \$5 per car, amounting to about \$28,000. This total sum of \$378,000 is \$433,150 less than the full amount of state aid requested. Some of the few counties will get the full state aid requested, as the votes of the towns were light, but about sixty of the counties will get less than they asked for, many getting less than one-fifth of the amount requested.

#### City to Do Work Without Contracts.

Appleton, Wis.—Appleton is going into the construction business. The city commissioners, having discovered they can hire men by the day and put down pavements cheaper than they can get the work done by letting it out to contractors, will do this work under their supervision and responsibility. During the summer of 1912 the city commission saved nearly \$3,000 on three small pavement jobs by doing the work by day labor instead of letting the work out by contract.

#### Road Building in Venezuela.

Maracaibo, Venezuela.—The work of road building undertaken by the Venezuelan government is being actively carried on in this district. The Carretera Central del Tachira, a macadamized highway from the terminus of the Tachira Railway to San Cristobal, the capital of the state of Tachira, will open up the richest coffee district in Venezuela. At present it costs about \$60 to send a ton of freight from Maracaibo to San Cristobal. About 2,000 men are at work on the highway, and the Tachira Railway is preparing to extend its line to Cara de Perro to connect with the highway, at a cost of about \$200,000. Another macadamized highway is being constructed from Motatan to Trujillo, Carretera de Trujillo. This highway will open up the coffee districts in the state of Trujillo. Still another highway is the one to be built from Perija to the port of Las Playitas, in the state of Zulia. This road will open up a rich farming district that is almost inaccessible at present.

#### Federal Roadways Being Repaired.

Chattanooga, Tenn.—The general repair of the federal roadways in Chickamauga Park is progressing very rapidly, according to Superintendent Randolph, of the Chickamauga park commission. Resurfacing is taking place on practically all of the important stretches of roadway, while several bridges are being entirely refloored. It is desired to finish the work before the advent of real winter.

#### Wisconsin Aid for Roads Almost Doubles in Year.

Madison, Wis.—The Wisconsin highway commission has issued a blueprint showing the state aid asked for road work in 1912 by counties and towns and the amount asked for the coming year 1913, also by counties and towns. In 1912 the amount was \$452,788, while for 1913 it is \$811,150, or almost double. This shows the growth of interest in good roads during the first year of the Wisconsin state aid law. Of the 1,195 towns in the state only 511 voted money for roads in 1912, while 865 have taken action for 1913. The 1912 towns voted \$422,163 for road work, while the towns on the 1913 list have voted \$757,273. In 1912 125 towns voted \$55,133 for bridges, while next year 205 towns have voted \$107,754 for 337 bridges. Eight counties in the state did not vote a dollar for roads in 1912—Adams, Burnett, Calumet, Iron, Ozaukee, Pepin,



Vilas and Washburn counties—and of these, six—Burnett, Calumet, Iron, Ozaukee, Pepin and Vilas—did not vote a dollar for bridges. For 1913 only three counties have failed to avail themselves of the new law, Ozaukee, Sawyer and Washburn, which have voted nothing for either roads or bridges. Milwaukee county leads again with an appropriation for road work of \$77,725, as compared with \$77,800 for 1912; next comes Dane county, with a total of \$45,231, as compared with \$29,912 for 1912. Sauk, with a total of \$38,415 for 1913, as compared with \$25,343 in 1912, is again third, and Grant, with a total of \$23,715 for 1913, as compared with \$16,633 for 1912, is fourth. The greatest increase in the state is shown by Adams county, 1,920 per cent. Of the seventeen towns in this county, none voted money for roads in 1912, and only one made an appropriation for bridge work, \$250. This year four towns voted money for roads and three for bridges. Manitowoc county had 1,485 per cent. of increase, nine towns voting money for roads or bridges, as compared with one in 1912. The amount voted for 1913 was \$7,550, as compared with \$500 for the previous year.

#### Boulevard Paving Begins.

Santa Monica, Calif.—The paving of Santa Monica boulevard, the biggest street improvement contract ever awarded in Santa Monica, has been commenced. Abutting property will be assessed for a total of nearly \$200,000. With this job and the paving of Fourteenth, Fifteenth, Sixteenth and Seventeenth streets and Idaho and Washington avenues due to start soon, North Santa Monica will soon have many blocks of paved streets. The P. N. Snyder Company, of Los Angeles, which has the job embracing Idaho and Washington avenues, has been given eight months in which to complete the work.

#### Model State Road Completed.

Oakland, Md.—There is now an unbroken stretch of more than twelve miles of model state road in Garrett county, from Oakland north to McHenry. The new concrete bridge on this road spanning Deep creek has been opened. State Senator Harvey J. Speicher, of Garrett County, was the first to cross the new bridge. As they went over the bridge Mr. Miller waved a flag and with a glass of water christened the structure "Bridge Crothers," in honor of the late Governor Crothers, because the model road work in Garrett county was begun under his administration. Previous to the ceremony, the strength of the bridge was tested with a heavy steam roller. West of Johnsons, this county, about a mile and three-quarters of state road has been completed.

#### Grouping Contracts Reduces Cost.

Baltimore, Md.—To show that the cost of street paving has been reduced in Baltimore materially within the last four years, City Engineer McCay has submitted a report to Mayor Preston comparing prices paid for sheet asphalt, vitrified blocks and granite blocks year by year since 1908, and pointing out that the work is cheaper in Baltimore than it is in Philadelphia or Brooklyn. The reduction in Baltimore is attributed in large measure to the paving commission's plan of grouping a number of streets in one contract. This enables contractors to figure more closely on the work, it is stated, because they can buy their materials in bulk. The statement in detail follows, the figures being on the square yard basis in all cases:

Year.	Sheet Asphalt.	Vitrified Blocks.	Granite Blocks.
1908.....	\$1.85 to \$2.15	\$2.14 to \$2.30	\$3.10 to \$3.87
1909.....	1.74 to 2.07	2.05 to 2.35	3.25 to 3.72
1910.....	1.72 to 1.90	1.80 to 2.20	3.35 to 3.65
1911.....	1.74 to 1.74	1.90 to 2.20	3.29 to 3.59
1912.....	1.65 to 1.76	2.05 to 2.15	3.09 to 3.49

The prices include concrete bases in each case. Figures for 1912 include a 6-inch base. Figures for other years include 4-inch and 6-inch base. The following are given as the prices received in Philadelphia for contracts let in the last week:

Sheet asphalt binder and wearing surface.....	\$1.60
Six-inch concrete base .....	.76

Total .....	\$2.36
Vitrified blocks, without base.....	\$1.64
Six-inch concrete base.....	.65

Total .....	\$2.29
Granite blocks, without base.....	\$2.80
Six-inch concrete base.....	1.17

Total .....	\$3.97
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It is stated that in Brooklyn sheet asphalt cost from \$1.55 to \$2.07 a square yard in 1910. Engineer McCay received a letter from the Darby Candy Company congratulating the department on the paving of Front street, declaring it to be the best yet done in Baltimore, in the opinion of the firm. The inspector on the work, unknown to the firm, was praised for his attention to duty.

## SEWERAGE AND SANITATION

#### Sewer Work Finished.

Bristol, Conn.—The work of extending the sewer system to Seymour street has been finished, and with its completion all of the work ordered by the city council this year is concluded. Thomas H. Brown, who is in charge of the sewer system and foreman of construction work, has commenced to build two new holding beds at the filtration plant in East Bristol. It is not expected that these beds will be completed this year, but they will reach the stage where it will be possible to utilize them, should it be necessary to do so.

#### Milk Supply Source of Infection.

Indiana Harbor, Ind.—The State Board of Health of Indiana, investigating an epidemic of typhoid fever at Indiana Harbor, learned that it was not due to bad water as supposed but to a dairyman in whose family there had been several cases of the disease. He sold milk to a distributor at Indiana Harbor.

#### Two Miles of Sewer Laid.

Saranac Lake, N. Y.—Work on the five miles of sewer extension under the \$50,000 bond issue voted last spring is about two-fifths completed. Contractor Relley has finished the mains on Clinton avenue, Algonquin avenue, upper Lake street and the new street to be opened by W. P. Jenkins. Work will be continued as long as the present warm weather holds out. Already \$10,000 has been expended for the new extension of the village mains this year.

#### Christen Sewer with Nautical Ceremony.

Brooklyn, N. Y.—Borough President Connolly officially opened the greater portion of the big sewer system, a length of 6 6-10 miles of trunk sewer, at Richmond Hill South, with appropriate ceremonies. With Harry Sutphin, deputy commissioner of public works of the Borough of Queens, a number of engineers and contractors, he started out on a tour of inspection. At Panama and Lefferts avenues the borough president superintended the taking out of one of the bulkheads in one of the manholes; he poured the contents of a quart bottle of champagne into the opening and permitted the storm water for the first time to flow through the sewer and on through the immense portals into a ditch leading to Jamaica Bay.

John R. Higgins, superintendent of sewers for the Borough of Queens, was unable to be present. Following the official opening of the sewer system, President Connolly, congratulated Joseph L. Sigretto, president of the firm of Joseph L. Sigretto & Co., general contractors, who had charge of the work, on the rapid accomplishment of the stupendous undertaking. The sewer system in the western end of the Fourth Ward is designed to serve the districts known as Richmond Hill, Ozone Park, Brooklyn

Hills, Morris Park and Dunton. The portion of the immense sewer system now completed and in use affects Richmond Hill and Morris Park, but the work is still progressing and will continue until the entire drainage plan is finished and in operation. The main just finished is what is known in engineering circles as a double-barreled twin sewer, each barrel being 9x8 feet, and it will drain about 1,000 acres. A feature of the construction is that the dry weather flow will be carried by a three-foot sanitary sewer to the Jamaica disposal plant. Only storm water is to be emptied directly into Jamaica bay. There is no possible chance of the pollution of the waters of the bay. The storm water is bi-passed at Rockaway road and Lefferts avenue. The cost of the work already completed is \$640,000. Work yet to be done in the construction of the sewer system in the Fourth Ward will cost \$200,000. Among those in the party on the tour of inspection and at the formal sewer opening with the borough president and the deputy public works commissioner were: J. D. C. Mackey, the resident engineer; W. L. Payne, in charge of all sewer construction work in Queens; John Greenwood, John O'Neill, Joseph Donohue, Edward Hill and William Wall.

#### Care of Sewage Costly.

Pottstown, Pa.—The town council seems to be "up against it" relative to the sewage problem. An expert warned the sanitary committee that 10,000 householders in the borough were liable to arrest for running private drains into the four natural sewers of the town, which in turn empty into the Schuylkill river. Dr. Dixon has ordered that there be disinfection of sewage at the mouth of the four natural sewers, and this will mean an outlay of about \$15,000 per year.

#### Carbondale Plans New Sewage System.

Carbondale, Pa.—Carbondale is to leave nothing undone to prevent a repetition of the smallpox epidemic through which it has just gone through at a great expense and the consequent temporary paralyzing of the city's business. The city has retained the services of Adam Kaufman, consulting engineer for the Wilmot Engineering Company, of Scranton, to prepare plans and specifications for a comprehensive system of sewage purification and disposal. Carbondale is one of the first municipalities to comply with the decree issued by Dr. Samuel E. Dixon, commissioner of the State Board of Health. By a law recently enacted by the state legislature all municipalities within the state must within three years provide suitable sewage purification works, to prevent the pollution of the state water sheds, rivers and streams being contaminated by crude sewage. Ohio, New York and New Jersey have passed similar laws, and other states are following suit. The site selected is on the flats at the lower city line along the Lackawanna river, and owing to the nearness of the upper coal vein to the surface, which is practically all mined, difficulty was experienced by the engineers in providing suitable foundations for the works, which will be built in units so that additions may be added from time to time as the city increases in population.

#### May Have Sewage System at Troy.

Troy, Pa.—A sewage system for this little village will probably be the outcome of the typhoid fever epidemic from which it is believed the residents are now being gradually relieved. A committee of members of the borough council have written to Dr. Samuel G. Dixon, state health commissioner, asking for an audience to discuss the question of installing a sewerage system in the village. Just at present the state health authorities are serving notices upon all property owners whose cesspools and other systems of drainage are believed to be polluting the waters of Sugar Creek, the source of the water supply of the village. The inspection of the watershed and system is now being confined to the village alone, but within the next two or three weeks the officials hope to begin work through the county where property is believed to be infecting the waters of the creek. There are over one hundred properties in the village alone which are believed

to be sources of infection. The property owners will all be compelled to improve conditions. Should the installation of a new sewerage system be realized, all of these cesspools and other sources of infection will be unnecessary. Inspector Yeager stated that there will be no more cases of fever as a result of the original source of infection, but there will be a few secondary cases among people who, while tending other cases, did not take the proper precautions.

#### Epidemic That Came High.

Harrisburg, Pa.—That Carbondale, a city of 17,000 population in Lackawanna county, has recently suffered from a smallpox epidemic is well known. A careful compilation of its accompanying loss of business and the expenditures necessitated made under the direction of Dr. Samuel G. Dixon, commissioner of health, is as follows: Reduction in merchants' receipts, \$60,000; loss of actual profits, \$12,000; loss to hotel proprietors, \$2,500; loss to proprietors of places of amusement, \$4,500; loss in railroad receipts, \$3,437; loss to street railways, \$700; expense to the city for guard service, physicians' fees, disinfectants, etc., \$6,567; maintenance of quarantined families, \$2,000; total, \$31,704. These figures do not include losses sustained by quarantined wage earners, loss of the railroad companies on inbound business or loss to the smaller merchants and business men through stagnation of trade. But there are many more important factors in the face of an epidemic than that of financial loss. It has been demonstrated that public health is a purchasable commodity. The Carbondale board of health failed to require the reporting of chicken-pox, and in the majority of cases of so-called chicken-pox in adults in the presence of a smallpox epidemic, it has been found to be a mild type of that disease. The reporting, supervising and placarding were neglected, quarantine was not required, proper medical inspection service was not maintained, and as a result smallpox spread rapidly.

#### Restrained from Building Sewer.

Charlotte, Mich.—A 2,000-foot sewer has plunged the village of Bellevue into litigation and promises to cost more in attorneys' fees than it would cost to construct it. A temporary injunction was issued by Judge Clement Smith of the circuit court, in which the village of Bellevue was restrained from constructing the sewer, pending the outcome of a chancery case, started by several of the taxpayers against the village, to compel the latter to show cause why the sewer should be constructed. The people of Bellevue turned down a bonding proposition to construct a \$30,000 water works and sewer system, last June, and later the village council voted to construct a sanitary sewer, the cost of which was not to exceed \$600 and the cost to be paid by all taxpayers in the city. Later the contract to construct the sewer was let and the cost was to be \$1,000. The tile has been ordered and the work started. The complainants claim that the sewer will be a menace to the health of the village, as without a water works system there will be no way to flush it, and the sewage and filth would seep through and poison adjoining wells.

## WATER SUPPLY

#### Artesian Water of Liberty Park Withstands Test.

Salt Lake City, Utah.—With the exception of a rather unusual amount of solids and the presence of traces of nitrates, the water from the flowing Liberty Park wells is as good as any water used by Salt Lake so far as a chemical test will demonstrate, according to the analysis of the water just made by City Chemist Herman Harms. The final test however, rests with the bacteriological examination to be made by Dr. Lynch as soon as the health department receives the apparatus necessary to make this investigation. The presence in water of nitrates or nitrites is cause for suspicion, for they are products of animal constituents, especially the nitrates, and it is from this source that any possible danger from disease germs might come. The percentage of solids in the well water is unusually high, being



a trifle over 40 grains to each U. S. gallon. These solids, however, are of the mineral variety and no harmful minerals are found among the list of ingredients. There are absolutely no traces of lead, copper, zinc, arsenic or other mineral elements. Free ammonia and albuminoid ammonia are present in extremely minute quantities. There is little sediment and it is principally sand. The water is as free from sulphuretted hydrogen, alkaline sulphides and metallic impurities as any water in the city, according to the report. It is clear and sparkling in color and the chemist says in his notes it is of "first class organic purity." At the same time that samples of the well were examined samples from City creek, Big Cottonwood and Parleys creek were tested. They all show the usual standard of purity with the exception that Parleys creek shows a "decided amount of greyish, flocculent and sandy sediment." This is attributed to high water and the nature of the ground over which the stream flows. No nitrates or nitrites were discovered in this water. In point of organic purity, however, the water from Parleys creek is not so good as the Liberty park well water, for the chemist says in his notes of this water, it is of "ordinary organic purity." City creek water, as usual, shows its highest class of purity.

#### Municipal Improvements in Aberdeen.

Aberdeen, S. D.—The new city reservoir which will supply the needs of the city for water and fire fighting purposes for many years, is nearing completion, and will soon be ready for the installation of the necessary machinery. The completion of the reservoir and other water storage work, at a cost of \$250,000, and the construction of a new \$100,000 city hall, authorized by the voters at the last election, assures a very satisfactory growth along municipal lines during the next year.

#### Smith Center Plans Water Supply.

Smith Center, Kan.—After putting up with a shortage of water during the summer months for many years past, the city has about completed an immense concrete dam at the water supply station that is expected to overcome the difficulty hereafter. The dam is in the form of a tunnel, the top of which is level with the surface of the earth. It is several hundred feet long and forty feet deep. The cost of the improvement is approximated at \$15,000.

#### 14 Months' Delay Benefits Town.

Canal Fulton, O.—After refusing for 14 months to sign a contract with the Frick & Lindsey Company, of Pittsburgh, owners of the Canal Fulton water works system, the Town Council has secured a reduction to two-thirds of the old rate for water for street flushing purposes and free water for the boiler of the steam fire engine, which formerly cost \$6 a year. The annual rate of \$576 for 16 fire hydrants remains the same as does the rate to private consumers. The old contract expired in September, 1911, and the company at once submitted a proposed contract, providing for a flat rate of \$140 a year for water for street flushing. On this item hinged the controversy which held up the final signing of the contract. Councilman Finefrock conducted the negotiations with the Frick & Lindsey Company and, with the aid of the other members, secured a rate of 25 cents per 1,000 gallons of water, which means a reduction of approximately one-third.

#### Water Department Alone Shows Gain.

Salt Lake City, Utah.—The water department is the only department of the city government which shows receipts in excess of its expenditures during the month of October, according to a comparative statement of receipts and disbursements lately issued by the city auditor. All of the other departments show expenditures in excess of receipts ranging from hundreds to thousands of dollars. The expenses of the water department for the month amounted to \$18,631.46, while the receipts were \$37,548.65. Receipts of the waterworks fund were \$138,544.73 and the expenditures from it only \$60,904.85.

A comparative statement of the receipts and expenditures of the various city departments follows:

	Receipts.	Expenses.
Public safety .....	\$1,969.98	\$25,242.95
Finance .....	3,504.05	8,062.61
Streets .....	3,833.55	34,017.42
Waterworks .....	37,548.65	18,651.46
Parks .....	2,264.95	6,632.77
Auditor .....	2.40	1,367.28
Library .....	105.33	1,792.29

In the statutory and general and special funds the receipts at this time of the year are far in excess of the expenditures, which makes the total receipts from all sources a little in advance of the total expenditures. The comparative figures of the funds follow:

	Receipts.	Expenses.
Statutory & gen.....	\$82,364.94	\$22,439.17
Special .....	60,904.86	21,298.71
The total receipts from all sources amounted to \$192,498.71 and the total disbursements were \$139,504.62.		

## STREET LIGHTING AND POWER

#### Pawpaw Seed Shuts Down Plant.

Shelbyville, Ind.—The new water and electric light and power plant of the Indiana Service Company suddenly stopped one day last week, closing down the machines of the largest table factory in the world and other plants. After several hours search, it was found that a pawpaw seed had got into the pump and closed the valve that fed the oil to the turbine.

#### Cuts Street Light Price.

Burlington, N. J.—Reduced rates for street lights as an offset to the agitation for a municipal electric plant are offered by the Public Service Electric Company in a contract which the company hopes to have made part of an ordinance to come before the Council for final action. The new rates, if adopted, will save the city about \$1,000 a year. Electrical experts say that a municipal plant would effect a saving of approximately \$5,000 a year. The corporation wants a five-year contract, but several Councilmen were said to favor a one-year contract at the new figures, by which the cost of street arc lamps are reduced from \$90 to \$80 and incandescents from \$21.50 to \$18.50 a year.

#### Report of Gas and Electric Meter Tests.

New York, N. Y.—Reports of gas and electric meter tests for the month of October by the Public Service Commission for the First District show that 37,949 gas meters were tested during the month. Of this number 266 were tested on complaint. Of these 97, or 36.5 per cent., were found fast, 52, or 19.6 per cent., slow, and 117, or 43.9 per cent., within the limits of accuracy as defined by law. Thirty electric meters were tested on complaint, of which 4, or 13.3 per cent., were found fast, none were found slow, and 26 within the limits of accuracy as defined by law.

#### Complain of Too Much Light.

Pittsburgh, Pa.—The North Side's gay white way, Federal street, is too brightly lighted at night to suit some of those who have apartments on that thoroughfare, that part of the city's main thoroughfare. About two months ago the city began operating a new lighting system on the street, using poles about 20 feet apart on either side of the street. There was great rejoicing when the current was turned on for the first time, as the street was made as light as day. Now complaints have begun to filter in that there is too much of the good thing in the street. Several of the kickers have suggested that half of the lights be turned off at midnight, while others have stated their belief that two lights in each square, after midnight, would be sufficient. Some of the complaints were taken to one of the officials in the lighting department and his first remark, after he had heard the nature of the kicks, was: "Let 'em get blinds." Continuing, he said: "These lights are constructed so as to give great light at a small cost for current. It is also necessary to consider the public safety when one talks of turning out the lights after midnight."

#### Ottawa Garnishees Gas Company.

Ottawa, Kan.—The city of Ottawa has garnisheed the funds of the Ottawa Gas and Electric Company, deposited in the State Bank of Ottawa, to protect itself in its suit for the collection of \$2,500 due annually from the company as a bonus on the company's franchise. The total franchise bonus is \$25,000 and the company had made several annual payments of \$2,500 each. The payment for 1912 was due July 1, and had not been paid. The city began suit recently for the collection of this money and the funds in the bank were garnisheed.

#### Probe Light Plant.

Topeka, Kan.—Twelve students in electrical engineering at the Kansas Agricultural College, assisted by B. F. Eyer, head of that department, made an efficiency test of the Topeka electric light plant. The test is expected to prove of considerable value to the city by revealing how the cost of operating the plant may be lowered. The students and Professor Eyer spent an entire night at the plant making observation and figuring out results from these data. Meters on every circuit of the plant told how much current was actually being produced. The amount of coal burned was weighed and the amount of water fed to the boilers measured. These figures gave a basis for figuring the cost of producing current. This cost, as soon as determined, can be compared with the standard of efficiency for light plants to see if the Topeka concern is doing the work it should do. A supper for the students at midnight was the only cost of the work to the city.

### FIRE AND POLICE

#### Greeley Fire Rates Cut.

Greeley, Colo.—A movement to secure lower fire insurance rates in Greeley culminated in the passage of a resolution at a mass meeting at the City Hall calling upon the aldermen to make changes and improvements in the city's fire system, and it has been unofficially announced that from \$3,000 to \$5,000 would be spent for this purpose. In return a cut of 19 per cent. will be made by the underwriters.

#### Winter Comfort for Indianapolis Traffic Police.

Indianapolis, Ind.—Policemen at street intersections in the crowded downtown district the coming winter will stand on small radiators set in manholes and connected with the local heating systems.

#### Life Net Added to Fire Equipment.

Knoxville, Tenn.—A modern life net is the most recent addition to the equipment of the local fire department. The life net is 9½ feet square. It has already been tested, firemen of the Commerce avenue station jumping into it safely from a considerable height. It can be used safely in catching persons jumping from as high as fourth or fifth floors. Chief Sam B. Boyd is endeavoring to get all of the firemen thoroughly familiar with its use. Had the local department had this apparatus, Chief Boyd stated, the two lives lost in the Marion apartment house fire several months ago might have been saved.

#### City Buys Bloodhounds.

Beloit, Wis.—The city of Beloit has increased its police force by the purchase of two thoroughbred bloodhounds which will be used to aid the department when delicate tracking of criminals is needed.

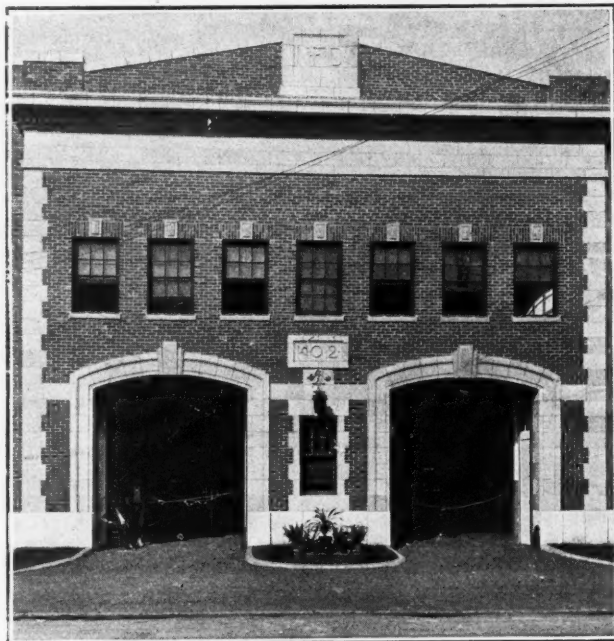
#### Town Blamed for a Forest Fire.

Hammonton, N. J.—Borough council has received an official communication from Henry B. Kummel, executive officer of the State Forestry Board, calling emphatic attention to the fact that at a pyrotechnical display held in Hammonton on July 16 a timber fire was caused by a fire-carrying piece and that a bill was paid by council to George William Bassett, whose place was endangered and who extinguished the blaze. The State official in-

formed council that, as it had granted a permit for the display, the Forestry Board would not approve the bill for services; that the town must be held liable, and that action be taken to prevent the use of such fireworks.

#### Additional Efficiency Gained by Central Location.

Norfolk, Va.—A view of the Bute street engine house recently erected is shown in the picture below. Its central location is ideal for reaching any part of the city. A wide asphalt streets allows room in which to maneuver the



Courtesy Virginia Pilot and Landmark.  
BUTE STREET ENGINE HOUSE.

heavy engines and cumbersome trucks with no loss of time. In equipment and convenience it marks a new era in Norfolk. The equipment of this engine house is horse drawn.

#### Install Fire Alarm Tests.

Salt Lake City, Utah.—The efficiency of the alarm system at fire headquarters has been increased by the installation of several electric bulbs in the signal room which tell the operator whether the downtown bells warning pedestrians and vehicles of the coming of the engine are working in proper order. Heretofore, when an alarm has sounded, the operator turns four switches which ring bells on the main business corners. If the bells were out of order or rang overlong, the operator had no way of knowing it. Now electric lamps show lights when the bells are ringing and go out when they stop. A buzzer also sounds.

#### Erect Fireproof Buildings.

St. Louis, Mo.—This city is leading the world in a type of building that in itself will be protected from both exterior and interior fires. All windows and openings above the first floor will be fitted with wire glass in iron sash and the building will be entirely outfitted with sprinklers. The upper floors of the building are supposed to be above reach of the fire department. The cost of the extra equipment for fire protection is said to be at least \$150,000 more than in ordinary buildings. It is said that no other city in the world compels the use of sprinklers throughout buildings of this character. The St. Louis fire prevention bureau gets credit for having the fire prevention specifications put into the ordinance.

#### Fire Destroys Town Without Firemen.

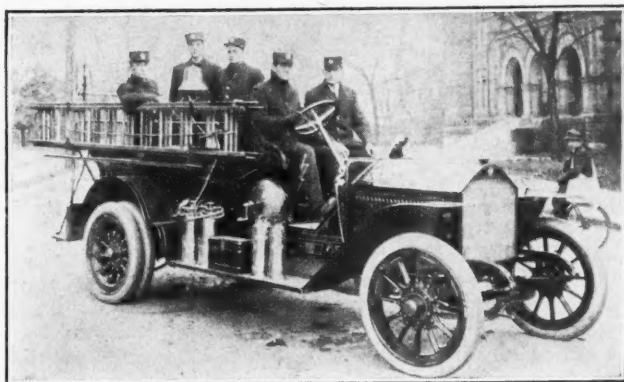
Tower City, N. Dak.—Fire early on the morning of Nov. 15 destroyed the greater part of the business section of Tower City. Among the buildings destroyed was that of the First National Bank. The town had no fire department. Help was sent from neighboring towns, but the fire had burned itself out before aid arrived.



## MOTOR VEHICLES

### Auto Fire Truck is Out of Commission.

Richmond, Va.—A countershaft on the auto fire truck was broken when Driver Newman suddenly put on all speed to get across North Eighth street at D street to avoid collision with a city street car. The shoulder on the shaft, on which is fitted the drive gear wheel, was twisted off, and the shaft so badly bent that a new one was deemed advisable. New parts have been ordered by telegraph. Auto repair men state the shaft had been damaged prior to the accident. They believe it probable the first damage was incurred in the wreck on North E street in May when one man was killed and another injured.



Courtesy Dayton Daily News.

DAYTON'S NEW FIRE TRUCK.

### Auto Engine Tire Bursts, Breaks Skull.

Hartsdale, N. Y.—Walter Townsend and Harold Drurey were repairing a tire on the Hartsdale fire company's chemical auto engine at Hartsdale and had blown up the tire and were putting on the demountable rim when in some way the inner tube was pinched and it burst. The heavy iron rim was driven with great force against Drurey and his skull was fractured. Townsend was cut about the head and he also received a deep gash in the right leg. Both men were unconscious when companions went to their aid.

### Buy New Auto Ladder Wagon.

Fort Wayne, Ind.—Captain John C. Stahlhut, of No. 2 engine house, is in Cleveland, where he is overseeing the construction of the new auto-chemical recently purchased by the fire department. The machine will be shipped to Fort Wayne within a week and will be placed in immediate commission. The board of safety is considering the purchase of a new auto ladder wagon for No. 2 engine house for use in conjunction with the chemical.

### City Apparatus at New York Show.

Lynn, Mass.—New Yorkers who take in the big show of fire fighting apparatus, which is open in Madison Square Garden Dec. 6, may view among the exhibits the motor driven combination pumping hose wagon, which is to be delivered to the city of Lynn by the Webb Fire Apparatus Co. of Allentown, Pa., and which James Birmingham, representative of that firm, states is the best piece of apparatus of its type in the world to-day. Mr. Birmingham had a conference with Mayor Connery, Commissioner Turnbull and Chief Harris to secure permission to exhibit the apparatus at the New York show, representing that it would be completed in about 12 days for delivery, and that it could be mounted at the New York show for exhibition purposes only and then could be carried through to Lynn after the show. Mayor Connery left the matter undecided. If decision is made to permit exhibition of the apparatus being built specially for Lynn, the makers stand ready to send to Lynn for temporary use the machine which was used in Lynn for demonstration purposes before the order was placed.

### Fire Auto in Collision.

New York, N. Y.—Frederick W. Deisroth, chauffeur for Deputy Fire Chief Binns, and Robert A. Burnett, a fireman, took the motor runabout used by Chief Binns out for a little trial spin one morning recently to test a newly repaired engine. They were running west on Duane street when at West Broadway they were struck by a touring car with such sudden impact that the smaller car was knocked on to the sidewalk, where it brushed a passerby to one side and crashed into the front of a saloon. Both of the men in the car were badly bruised, and Burnett's right arm was broken.

### Trustees of Venice Purchase Auto Truck.

Venice, Cal.—Purchase of a three-ton auto truck for service in the sanitary department has been made by city trustees. For the same service a one and a half ton truck will be bought by contract at the next meeting of the city board. Saving of time and increase in efficiency are the advantages that the trustees say will be gained by acquiring the trucks.

### Dallas Firemen View New Engines.

Fort Worth, Tex.—Headed by F. W. Bartlett, fire and police commissioner, a party of officials from the Dallas fire department recently visited Fort Worth to witness a series of tests conducted by the local department. These tests were made with the big auto fire pumps that were installed several weeks ago. The party included Commissioner Bartlett, Fire Chief H. F. Magee, Master Mechanic E. A. Lott and Henry Truett of Dallas engine company No. 4, and J. Ed. Schmitz, representing the American La France Auto Fire Apparatus Co. of Elmira, N. Y., accompanied the party. The tests were conducted at Railroad and Galveston avenues and were very successful.

### Motor Dog Wagon; That's the Latest.

San Francisco, Cal.—In San Francisco the Society for the Prevention of Cruelty to Animals has provided a novel way in which muzzleless canines are taken to the public pound. A Federal truck chassis, equipped with a spacious body suitable for carrying the dogs operated daily throughout the streets of San Francisco, capturing the unfortunate "purps." The body is divided into ten divisions for keeping the dogs separate—the hounds from the poodles and the vicious from the meek. This truck carries three men, impounding hounds, over the hilly streets every day. It has been in operation for six months, averages 1,000 miles per month at a cost of \$1 per day. The auto displaces a wagon on which were used four horses, working in relays, two in the morning and two in the afternoon. The reduction in expense has been a great saving to the society, and more than offsets the depreciation on the auto. The truck has been in daily operation for six months, covering a total of 6,084 miles, and has given no trouble whatsoever.

### Decide to Buy a Tractor.

San Leandro, Cal.—Action on the purchasing of new and more modern fire apparatus for the San Leandro fire department was taken at the meeting of the board of trustees. In view of the great strain placed upon the present town hall by the fire bell hung in the tower of the building when it is rung, it was decided to secure data relative to the construction of an iron tower in the rear of the building in which to hang the bell. During the meeting Dr. G. L. Coleman, a member of the board of trustees, told of the dissatisfaction existing among the members of the volunteer fire department because of the difficulty in getting the present fire engine to a fire in anything like a short time. Trials of several types of motor-drawn engines have been held in San Leandro recently, but on account of the price asked, about \$9,000, it would be necessary to call for a bond issue to pay the cost. It was then shown how, with a motor tractor of about thirty-five horsepower, costing in the neighborhood of \$3,500, it would be possible to utilize the present fire engine and yet be able to purchase the tractor out of the general fund. A resolution was passed calling for a motor tractor suitable for this purpose.

**Recommends Motorizing Apparatus of Fire Department.**

St. Paul, Minn.—Four hundred thousand dollars has been fixed by the Conference committee as the figure for the fire department budget for next year. This does not give the men of the department the wage increase they asked for, an increase of about \$10 a month all along the line. Fire board estimates were cut \$126,000. It probably will not give the thirty-five additional men asked for. As taking the place of the increase in salary an effort will be made by Mayor Keller and others in the city administration to have legislation passed this winter permitting the firemen and police officers, at least when on duty, to ride free on the street cars. Herbert H. Temple, representing the budget committee of the Association of Commerce, made a specific recommendation that the appropriation should not be more than \$425,500 and that not less than \$25,000 of this sum should be used for motorizing the apparatus of the department. It was suggested that gasoline tractors should be attached to the fire engines, and the old engines kept in service.

**GOVERNMENT AND FINANCE****Adopt Commission Form of Government.**

McKinney, Tex.—In the recent election the voters gave a majority of nearly four and a half to one in favor of the proposed commission form of government, the vote being 448 for and 102 against.

**Commission Government Rejected.**

Savannah, Ga.—Savannah voters decided against the commission plan of government by giving a majority of 1,819 against it out of 4,507 votes cast.

**Commission Government Accepted.**

Florence, S. C.—At the last election the people of Florence by a vote of 200 to 21 determined to institute the commission form of government for the city. The new plan of administration will go into effect next May.

**STREET CLEANING AND REFUSE DISPOSAL****After Clean-Up Record.**

Louisville, Ky.—With the distribution of the last few thousand dodgers calling attention to the work in which every citizen is expected to help on Clean-Up days, the Clean-Up Committee of the Women's Outdoor Art League has brought to a close its campaign for the biggest house cleaning that the city has yet seen. Fifty thousand dodgers were passed around among the department stores and schools, and 12,000 more were issued to the police department.

**Would Put Ads on Street Cans.**

McKeesport, Pa.—Representatives of a novelty advertising firm of Pittsburgh have appeared before the street committee of councils with a proposition to install waste paper cans in the city free of charge, and also keep the cans in repair. These cans, which are now in use in Wilkesburg and other places, will be furnished by the company and kept in repair without any cost to the city. The company will receive its compensation for advertising to be placed on the cans. The city is to be the strict censor of the advertising and nothing objectionable will be allowed. The company agents presented a contract to be signed, which referred to the city solicitor for an opinion.

**Improving City Abattoir.**

Winston-Salem, N. C.—Hydrants to furnish the city abattoir with the necessary supply of water in case of fire have been ordered by the city and will be installed soon. This will reduce the amount of premiums for fire insurance of the abattoir property, which at present represents an investment by the city of about \$20,000 or \$25,000. When the rendering tank and other apparatus are installed in the abattoir to utilize the by-products, the total amount invested here will probably reach \$30,000. The rendering

tank and other machinery have been ordered for some time, and are expected to arrive at any time. It is estimated that the new machinery will pay for itself in a year's time, and will gather a neat revenue for the city besides. Dr. Park, city meat and milk inspector, who has the direction of the abattoir, states that in many instances the outfits for the saving of all the products usually wasted would pay for themselves in even a shorter period.

**RAPID TRANSIT****Can Use All Denver Streets.**

Denver, Colo.—The Denver City Tramway Co. is entitled to the use of every street in Denver, until 1926, according to a decision of the United States Court of Appeals. The decision was filed in litigation of the Mercantile Trust Co., New York, mortgagee of the tramway company, against the city and county of Denver. The trust company sought to have the franchise granted in 1885 made final in all its parts.

**Report Filed on San Pedro Road.**

Los Angeles, Cal.—That the first link of the municipal railway from the plaza to Ninth street over San Pedro street should be in operation within a year was the estimate made on the basis of the report of City Engineer Homer Hamlin, filed with the board of public works and later transmitted to the city council, by which body it will be acted on. The plans and specifications for the road accompanied the report. The specifications place a time limit of eight months on the successful bidder for the completion of his contract, and allow him forty days after securing the contract in which to begin work. The estimated cost of the road is \$208,520, or a little under \$29 a lineal foot. The payment for the road is provided for in two installments. The first payment of \$10,000 is to be made on completion, and the balance is to be paid on Dec. 1, 1913, provided thirty-five days have elapsed before that time after the first payment.

**Street Car Inspector Approved.**

Tacoma, Wash.—The proposed plan for a municipally employed street car inspector was approved by City Attorney T. L. Stiles. The city attorney declared that he believed this to be the best solution of the transportation problem. "An inspector to take charge of the kicks against the company would be a good thing for the public and the corporation," said the city attorney. "Mr. Mills is a commissioner and he cannot be expected to pass on every minor complaint raised against the service." Mayor Seymour advised the other commissioners to be slow in passing regulative legislation until the company receives its new equipment.

**Superior Gets Four Cent Fares.**

Superior, Wis.—In a decision of the Wisconsin railroad commission the Duluth Street Railway Co. is ordered to establish a rate of six street car tickets for 25 cents in addition to the regular 5 cent fare on its Superior lines.

**New Double-Truck Street Cars Arrive.**

Muskogee, Okla.—The "Pay-as-you-enter" system on the Muskogee Electric Traction Co. lines will soon be complete. Six new closed double-truck trolley cars, similar to those now in use only much larger, have arrived for use on the Hyde Park and Fort Gibson lines and four more cars of the same make are expected soon. This will mean an end to the open cars now in use on the Hyde Park line and consequently an end to the occasioned serious accidents due to overcrowded cars on special occasions in Muskogee. The new cars are 45 feet in length, stronger built and capable of seating 66 persons, an increase in capacity of nearly twofold. In other respects, the new cars are similar to the closed cars now in use. When the four other cars arrive, there will be 55 cars in the traction system of Muskogee, including the cars used only on special occasions. The shipment of cars was ordered so as to be in Muskogee June 15, but there was a delay at the factory in St. Louis.



## MISCELLANEOUS

### Plan to Beautify Coeur D'Alene City.

Coeur D'Alene, Idaho.—The Civic Improvement Club has decided to hold a series of card parties throughout the winter. The idea of securing a visit of the Olmstead brothers, the noted landscape artists, and the procuring of working plans from them for a more beautiful Coeur d'Alene has not been abandoned by the club, and the series of social affairs planned is with a view to help in raising money to defray the expense of such plans.

### Roof Garden on City Hall.

Philadelphia, Pa.—If the plans of Mayor Blankenburg are carried out, the roof of the Philadelphia city hall will be utilized next summer as a garden for the free use of the public. A glass awning is planned for stormy weather. There will be musical concerts evenings by the Philadelphia orchestra and the municipal band. The entire cost of the project is to be refrayed out of the annual appropriation to the mayor's office.

### Mayor Lunn Must Pay Fine.

Little Falls, N. Y.—G. R. Lunn, Socialist Mayor of Schenectady, was found guilty of violating a city ordinance because of refusing to move on at the order of the police when he made an address to the strikers in Little Falls during the recent labor troubles. He was sentenced to pay a fine of \$50 or go to jail for 50 days. Attorney Frank Cooper, of Schenectady, representing Mayor Lunn, announced that an appeal would be taken from the decision of Recorder Collins sentencing the Schenectady executive to pay a fine of \$50 or spend 50 days in jail.

### To Improve Frontage of Boston Public Garden.

Boston, Mass.—Completed plans, as illustrated, effecting a transformation of the Charles and Boylston street frontages of the Public Garden, are to be presented to the mayor within the next few days by superintendent of public grounds, D. Henry Sullivan. Included in the plans are the placing of 15 statues on a new mall running the full length of Charles street. Several statues are to be removed from their present sites and placed on the new mall and for their removal an appropriation of \$10,000 is asked for. The proposed changes follow in general the lines of the Olmstead recommendation made four months ago, and are approved by the art commission. A new mall, similar to the present Beacon street mall, is to be laid out along the entire Charles street side of the Gardens. When the present subway cutting is covered in the plans will be carried out in their entirety, by a third and similar mall along the Boylston street side. Shade trees are to be planted along the broad walk of the new mall. It has been the belief of landscape architects for years that the Public Garden needed "bracing up" and that the general effect should be more free and flowing. This is sought in the present plans. Of the 15 statues which it is planned to place on the new mall sites have already been selected for two, the Edward Everett Hale and Wendell Phillips statues. These will stand at each end of the wide entrance at the center of the mall on Charles street. One of the most imposing architectural features of Boston is planned at the Boylston street corner of the new mall. The big bronze statue of Robert

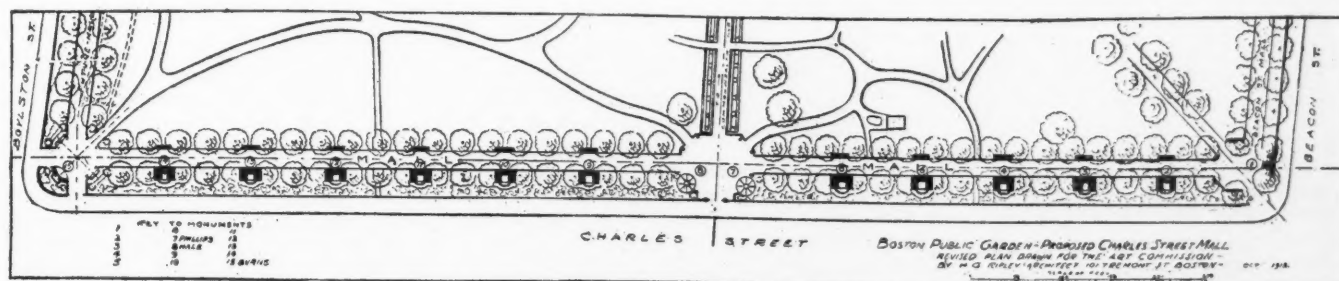
Burns, on which Henry H. Kitson of Quincy is working, the funds for which were subscribed by a committee of Boston Scotsmen, will be the center of an architectural group planned for the double entrance at this corner. The Ayrshire peasant poet will be shown bareheaded, with a plaid over his shoulder, and with a collie dog at his feet. The figure will stand under an open recess formed of two lofty columns of Kentucky marble, with flat entablature and Corinthian capitals, designed by Henry P. Richardson of the Guy Lowell office. At its back a mound, set with shrubs, will conceal the statue from the street. On the Garden frontage the group will be completed by a double parapet of low-turned pilasters and two marble seats of severe classical design. A semi-circular pavement of variegated marbles in geometrical designs is to be laid at the base of the monument. The entrance to the Garden at this point will be gained by two gates north and south of the Burns statue, giving out upon a wide square. From here when the scheme is carried out in its entirety the Charles and Boylston street malls will branch off. A similar open space will lie directly opposite the main entrance of the new Charles street mall. The plans also contemplate the enlargement along similar lines of the square on the Arlington street side of which the Washington statue is the center. Additional trees and shrubbery are to be planted on the present mall which crosses the lake by the bridge. The Alexander Hamilton, Charles Sumner, John Glover, Lief Erickson and William Lloyd Garrison statues on Commonwealth avenue are among those to be removed by the plans of the art commission and relocated on the new mall.

### Plan City Milk Company.

Cleveland, O.—Seven cent unskimmed municipal milk is a possibility in Cleveland. Through the prospective organization of a municipal milk company, patterned after the incorporated City Fish Company, the city may deal directly with the Farmers' Congress, of Geauga county, of nearly 2,000 producers, and retail milk to all at two cents a quart under the present price. The Farmers' Congress believes a similar company could contract with the congress at approximately 14 cents a gallon if the farmers were assured a steady market.

### Drill for Oil in City Park.

Saginaw, Mich.—Former State Geologist A. C. Lawe of Michigan, and now professor of that subject in Tufts college, Massachusetts, in a letter to Ezra Rust, donor of Rust Park to the city, strongly urged Mr. Rust to permit the drilling for oil and gas on parts of the park. Professor Lawe suggests that a well be sunk at least 6,400 feet, which he says will be of great value to science. He advises that the state geologist be asked to render assistance in the matter. His letter says: "The prospect of economic value is sufficient to warrant it, and it will certainly be of very great scientific value. I think plans should be made to have this well sunk 6,400 feet at least, in order to prove up the Trenton limestone, and sincerely hope arrangements will be made through the state geologist, very possibly with the assistance of the Carnegie geophysical laboratory, to get the full benefit of the exploration. Situated as it will be near the center of a relatively undisturbed basin far from any igneous rock, it will throw light upon the rate of increase of temperature in going toward the center of the earth and many other similar matters."



PROPOSED PLAN FOR IMPROVING PUBLIC GARDEN.

## LEGAL NEWS

### A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

#### Smoke Ordinance—Reasonableness.

*Erie R. Co. v. Mayor & Aldermen of Jersey City* (16 cases).—An ordinance forbidding the emission of dense smoke from any stack, connected with any engine or locomotive, within the municipal limits, which smoke contains soot or other substance in sufficient quantity to cause injury to health or damage to property within such limits. Held, unreasonable as to a railroad company operating in such municipality, because in derogation of its right to emit such smoke as is reasonably necessary for its proper operation.—Supreme Court of New Jersey, 84 A. R., 697.

#### Injuries to Pedestrians—Icy Sidewalk.

*Green v. Hollidaysburg Borough*.—In an action by a woman to recover for injuries from a fall on an icy pavement, where the evidence showed that there was a ridge of ice six inches high extending across the pavement and obscured by snow, and that the condition had existed for several weeks, a verdict for plaintiff will be sustained.—Supreme Court of Pennsylvania, 84 A. R., 785.

#### Injuries to Pedestrian—Contributory Negligence.

*Roberts v. City of Piedmont*.—Where a pedestrian did not know of a danger at a street crossing, caused by an open ditch, and there were no street lights, nor danger signals or warnings, and the sidewalk, because of the ditch, was a dangerous path to one unfamiliar with it, the pedestrian, using the sidewalk at night without any lantern, was not guilty of contributory negligence, on the theory that she chose a dangerous way, while she could have taken another way, which was safe.—St. Louis Court of Appeals, Missouri, 148 S. W. R., 119.

#### Streets—Repairing and Repaving.

*Noel et al. v. Town of Lees Summit*.—The relaying of macadam in the center of a macadamized street to the width of 14 feet part of the way and 20 feet for the remainder of the way, and to the depth of 18 inches, and presenting, when completed, after work continuing for 2 months and 10 days, at a cost apportioned to the abutting property of \$4,025.90, a uniform and even appearance the entire length of the street, as though repaved, is not "repairing" a street, within Rev. St. 1909, authorizing a town of the fourth class to repair streets without notice, through its proper officer or committee on improvements, as the word "repair" is not the substitution of a structure in place of a similar original structure; but to constitute a repair there must be an original on which to rest the repair.—Kansas City Court of Appeals, Missouri, 148 S. W. R., 194.

#### Ordinances—Subjects and Titles.

*City of Winfield v. Hackney*.—The city had legislative authority to enact ordinances to regulate and provide for taxing the owners and harborers of dogs. It undertook to punish the owner of a dog for failure to register its name, and to pay a sum of money, under "An ordinance in relation to the registration of dogs in the city of Winfield and providing a penalty for the violation thereof." Held, that the taxation of owners of dogs is not embraced in this subject; and under General Statutes 1909, requiring the subject of an ordinance to be clearly expressed in its title, such ordinance is void.—Supreme Court of Kansas, 126 P. R., 1089.

#### Construction of Highways—Guard Rails.

*In re Croton Falls Dam and Reservoir, Highway Proceeding*.—Laws 1887 requires the city of New York to construct such highways and bridges as may be made necessary by the construction in either of certain counties of any reservoir in connection with the city's water works, and to maintain such bridges as may be made necessary; and a section declares that, in case a change of highway

is made necessary, the commissioners shall include in the amount awarded to the town therefor such sum as shall be sufficient to defray the expense of making the change of route and location and building such highway. Held, that, where certain roads in a town were necessarily closed and others opened by the city in the course of such work, the commissioners had no power to include in the award a sum for the maintenance of guard rails in dangerous places on the new roads; the maintenance of such roads and the construction of guard rails, if necessary, being the duty of the town, and the city's duty of maintenance being limited to additional highway bridges, if any.—New York Supreme Court, 137 N. Y. S., 554.

#### Defective Streets—Reasonable Repair.

*Jones v. City of Detroit*.—Where a city photographer measured a depression in the pavement of a street, by which plaintiff claimed he had been injured, and testified that the hole was three inches deep, the court was entitled to accept such evidence as conclusive, as against the evidence of certain other witnesses for plaintiff, who merely estimated the hole from 2½ to 6 inches deep. A city was not shown to have failed to perform its duty to keep a paved street in reasonable repair by reason of the fact that it permitted a saucer-shaped depression three inches deep and the size of a washtub, to remain in the asphalt surface.—Supreme Court of Michigan, 137 N. W. R., 513.

#### Void Contract for Services.

*Haskins & Sells vs. Oklahoma City*.—Where a contract for the services of an expert accountant, to be rendered to a city, was void as incurring an excessive indebtedness, in violation of Wilson's Rev. & Ann. St. 1903, the city was not liable on a quantum meruit for the reasonable value of the services rendered.—Supreme Court of Oklahoma, 126 P. R., 204.

#### Defects in Streets—Questions for Jury.

*Earley vs. City of Philadelphia*.—Where there is evidence, in an action against a city for injuries caused by the caving in of a street, that the street was in the control of an independent contractor, it is proper to submit to the jury the question whether the city or the contractor had failed in the performance of a duty to the plaintiff.—Supreme Court of Pennsylvania, 83 A. R., 616.

#### Streets—Abatement of Nuisance.

*City of Jordan v. Leonard*.—A municipality, whose public streets and grounds have been placed under the control of its common council, or other officers, may maintain an action to abate a nuisance therein and to enjoin its maintenance. The complaint herein alleges facts constituting such a cause of action.—Supreme Court of Minnesota, 137 N. W. R., 740.

#### Injuries to Traveller—Trespasser.

*Williams v. City of St. Joseph*.—One riding a bicycle on a pathway used as such by the public, in violation of an ordinance punishing one riding a bicycle over any path used as a public way for pedestrians, is a trespasser, and he may not recover for injuries caused by falling from the path into an excavation in the street while riding on the path.—Kansas City Court of Appeals, Missouri, 148 S. W. R., 459.

#### Water Companies—Exemption—Taxation.

*City of Winchester v. Winchester Water Works Co.*—An agreement between a city and a water company that the company will furnish and supply all water for public buildings, etc., for such amount annually as shall equal the amount assessed by the city in taxes upon the water works system and franchises, in the absence of anything to show the want of good faith, that the contract is inequitable or imposes an unjust burden on the other taxpayers, or that the services performed by the company are disproportionate to the amount of taxes, will not be regarded as an exemption from taxation, but as a provision for the payment of the taxes by rendering services equivalent thereto, and hence is valid, especially where it has been carried out by the parties for a number of years.—Court of Appeals of Kentucky, 148 S. W. R., 1.



## NEWS OF THE SOCIETIES

### Calendar of Meetings.

- December 2-3.  
AMERICAN SOCIETY OF REFRIGERATING ENGINEERS.—Annual Meeting, New York City.—W. H. Ross, Secretary, 154 Nassau St., New York City.
- December 2-5.  
NATIONAL COMMERCIAL GAS ASSOCIATION.—Annual Meeting, Atlanta, Ga.—Louis Stotz, Secretary, 29 W 39th St., New York City.
- December 3-6.  
AMERICAN ROAD BUILDERS' ASSOCIATION.—Ninth Annual Convention, Music Hall, Cincinnati, O.—E. L. Powers, Secretary, 150 Nassau street, New York City.
- December 3-6.  
AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Annual Meeting, New York City.—C. W. Rice, Secretary, 29 W. 39th St., New York City.
- December 4-6.  
NATIONAL HOUSING ASSOCIATION.—Second National Conference of Housing in America, Philadelphia, Pa.—John Ihlder, Field Secretary, 105 E. 22d Street, New York City.
- December 4-6.  
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS.—Annual Meeting, Detroit, Mich.—J. C. Olsen, Secretary, Polytechnic Institute, Brooklyn, N. Y.
- December 5-7.  
NATIONAL SOCIETY FOR THE PROMOTION OF INDUSTRIAL EDUCATION.—Annual Convention, Philadelphia, Pa.—C. A. Prosser, Secretary, 105 E. 22d St., New York City.
- December 9-12.  
ASSOCIATION OF AMERICAN PORTLAND CEMENT MANUFACTURERS.—Annual Meeting, New York City.—Percy H. Wilson, Secretary, Land Title Building, Philadelphia, Pa.
- December 12-18.  
NATIONAL ASSOCIATION OF CEMENT USERS.—Annual Convention, Pittsburgh, Pa.—R. L. Humphrey, President, Harrison Building, Philadelphia, Pa.
- December 16.  
FIRE EXPOSITION AND INTERNATIONAL CONFERENCE OF FIRE PREVENTION, PROTECTION AND EXTINGUISHMENT.—Madison Square Garden, New York City.—A. D. V. Storey, Secretary, 1269 Broadway, New York, N. Y.
- December 30-January 6.  
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—Annual Meeting, Cleveland, O.—L. O. Howard, Secretary, Smithsonian Institution, Washington, D. C.

### American Road Builders' Association.

The Ninth Annual Convention and the Third American Good Roads Congress will be held in Cincinnati, Dec. 3-6, 1912. The program is as follows: Tuesday, Dec. 3.

8.30 to 11 A. M.—Registration of delegates at convention headquarters, Music Hall. 11 A. M.—Congress called to order by the president; address of welcome on behalf of the state of Ohio; address of welcome on behalf of the city of Cincinnati; address of welcome on behalf of Hamilton county; address of welcome on behalf of the Cincinnati Chamber of Commerce; response on behalf of the American Road Builders' Association; response on behalf of visiting state officials; response on behalf of visiting city officials; response on behalf of visitors from other countries; appointment of committees. 2.30 P. M.—Opening address by the president of the American Road Builders' Association, Nelson P. Lewis; "The Organization of a Highway Department": (a) for a state, by Major W. W. Crosby, consulting engineer, Baltimore, Md.; (b) for a large city, by W. H. Connell,

chief of the Bureau of Highways and Street Cleaning, Philadelphia, Pa.; (c) for county and township, by A. N. Johnson, State Highway Engineer of Illinois; discussion to be opened by James Macdonald, State Highway Commissioner of Connecticut; "The Development of a Plan for a State Road System," by James R. Marker, State Highway Commissioner of Ohio; discussion to be opened by Col. E. A. Stevens, State Highway Commissioner of New Jersey.

Wednesday, Dec. 4.

10 A. M.—"Bituminous Pavements for City Use," by George W. Tillson, Consulting Engineer to the Borough of Brooklyn, New York City; discussion; "Wood Block Pavements Laid by Day's Labor," by Ellis R. Dutton, Assistant City Engineer of Minneapolis, Minn.; discussion, to be opened by H. W. Klausmann, City Engineer of Indianapolis, Ind.; "Cuts in Newly Paved Streets," by H. M. Waite, City Engineer of Cincinnati, O.; discussion. 2 P. M.—"The Contractor's Point of View," by Hugh Murphy, Contractor for Public Works, Omaha, Neb.; discussion, to be opened by S. D. Foster, Chief Engineer State Highway Department of Pennsylvania; "Plant Equipment," by F. E. Ellis, Manager Essex Trap Rock & Construction Co., Peabody, Mass; discussion. 8.30 P. M.—The visiting delegates will be the guests of the citizens of Cincinnati.

Thursday, Dec. 5.

10 A. M.—"Some Features of Macadam Construction," by T. R. Agg, Road Engineer Illinois State Highway Commission; discussion, to be opened by R. A. Meeker, State Highway Engineer of New Jersey; "Earth and Gravel Roads," by Robert C. Terrell, Commissioner of Public Roads of Kentucky; discussion, to be opened by Robert J. Potts, College Station, Tex.; "Highway Bridges and Culverts," by W. A. McLean, Engineer of Highways, Province of Ontario, Canada; discussion, to be opened by A. W. Dean, Chief Engineer, Massachusetts Highway Commission. 2 P. M.—"The Economics of Highway Construction," by Clifford Richardson, consulting engineer, New York City; discussion; "Traffic Census as a Preliminary to Road Improvement," by Col. Wm. D. Sohler, Chairman Massachusetts Highway Commission; discussion; "The Laying of 104 Miles of Smooth Road Surface in One Borough in Five Months," by G. Howland Leavitt, Superintendent of Highways, Borough of Queens, New York City.

Friday, Dec. 6.

10 A. M.—This session of the convention will be devoted to topical discussions. The particular subjects to be discussed will be determined by vote of the delegates. Ballots containing a list of questions will be distributed at the first session and delegates will be requested to indicate their

choice. The speakers selected to open the discussions will be allowed ten minutes and other speakers five minutes. This promises to be one of the most interesting and profitable sessions of the convention. 2 P. M.—Unfinished business; report of the Committee on Resolutions; meeting of members of the American Road Builders' Association, selection of Nominating Committee.

List of questions from which subjects for topical discussion are to be selected: (1) Small blocks, natural or artificial, for country roads; (2) Convict labor on road work; (3) Correction of alignment and grade in existing highways; (4) Care of the roadside, including tree planting and removal of unsightly objects; (5) Division of expense of road improvement; (6) Unit price vs. lump sum contracts.

### Texas Good Roads Association.

At a meeting at Waco, Nov. 9, a resolution was adopted recommending the creation of a State Highway Department to be headed by a non-partisan, non-political commission, which shall select a State Engineer to supervise the work of the Highway Department. It is recommended that the road work of the counties be placed in the hands of a competent road engineer or supervisor. It is urged that the Legislature authorize the Governor and the Penitentiary Commissioners to put into execution plans for the use of state convicts on the public roads. The opinion is expressed in the resolutions that the state should own and operate rock quarries and gravel pits in different localities throughout Texas and that crushed rock and gravel should be furnished free to counties for road work or on such terms as prescribed by law. The resolutions declare that there is no good reason why a bond issue for road improvement in a subdivision of counties should not be carried by a majority vote, the same as where the election is for the whole county.

### Missouri Highway Association.

This association met in Jefferson City, Mo., Nov. 13, and the following officers were elected: Roy F. Britton, St. Louis, president; Judge R. A. King, Hardin, Ray county, vice-president; Jerome B. Griggs, Joplin, secretary, and Auditor John P. Gordon, treasurer. This organization is the most comprehensive in its scope which has ever tackled the proposition of macadamizing the muddy roads of Missouri. Back of it are a large number of men with money, the members of the automobile associations of the state, the state highway engineer, the industrial departments of the railroads and a number of corporations. It proposes to enlist the aid of the women, the school teachers, the preachers and their congregations, the newspapers and magazines, the members of Congress, state officers, members of the Legislature, and patriotic associations. The Legislative Committee is likely to report two measures —(1) a constitutional amendment pro-

viding either for the issuance of bonds for permanent road construction or for levying an annual tax for the benefit of the roads; (2) a measure creating a State Highway Commission, whose duty it will be to generally supervise the construction of permanent roads in Missouri and the expenditure of state road funds. This measure contemplates the appointment of a highway commissioner and a highway engineer, these to be salaried officers, devoting their entire time to the work.

#### Vermont State Firemen's Association.

The annual convention of the Vermont State Firemen's Association was held October 16 in the city courtroom of the city hall. An unusually large number of chiefs were present and most of them agreed to stay over another day, so that they might witness the annual inspection of the Burlington department.

President Frank R. Stone presided at the meeting and M. C. Buck of Randolph was elected president. The vice-presidents are the same as formerly, C. B. Gladding of Barre, B. A. Durkee of Randolph, J. H. Donnelly of Vergennes, C. B. McAllister of Montpelier and H. H. Hodgdon of Barre. The secretary, E. D. Moore, of Bennington, and the treasurer, L. C. Grant of Burlington, also continue in office.

The executive committee this year will consist of C. A. Niles and F. E. Perkins, both of this city; J. H. Holloran of Winoski, F. H. Gurin of St. Albans and E. B. Gilbert of Montpelier. The statistician will be C. F. Rich, of Middlebury. The report of the treasurer showed a comfortable balance of about \$100 in the treasury.

The only piece of legislative work to be considered was the asking of an appropriation of \$1,000 each year to defray the expenses of a tournament.

#### Society for Electrical Development.

This society was incorporated at Albany, N. Y., November 13, for the purpose of establishing cooperative relations among the different electrical interests in the United States, Canada and Mexico, with a view of increasing the use by the public of electrical current, thus increasing the demand for electrical apparatus and supplies and to promote the welfare of individuals identified with all branches of electrical industry. The principal office of the association will be in New York City. The directors are: Henry L. Doherty, New York; W. A. Lamien, Webster Groves, Mo.; L. A. Osborne, Pittsburgh; A. C. Einstein, St. Louis; J. E. Montague, Niagara Falls; F. C. Price, Salem, Mass.; Roger Scudder, Kirkwood, Mo.; W. Robertson, Buffalo; J. R. Crouse, Cleveland; Walter S. Johnson, Philadelphia; Gerard Swope, New Brunswick, N. J.; B. M. Downs, East Orange, N. J.; E. W. Burchard, Schenectady; G. M. Sanborn, Indianapolis; J. R. Strong, Short Hills, N. J.; F. N. Thorpe, Paterson, N. J.; Earnest McCleary, Detroit; Earnest Freeman, W. W. Lowe and John F. Gilchrist, Chicago.

#### American Association for the Planting and Preservation of City Trees.

At a meeting in the Museum Building, Brooklyn, N. Y., Nov. 12, the following addresses were made: "The Progress of the Tree Association," by George V. Brower; "Problems of Our City Trees" (illustrated), by J. J. Levison; "How the Brooklyn Botanic Garden Can Be of Service to the Association," by D. C. Stuart Gager; and "An Example of Successful Co-operation in Neighborhood Planting," by George C. Wood.

#### National Conference on City Planning.

The conference for 1913 will be held in Chicago, Ill., in May. The executive committee is planning a program calculated to be most helpful to cities and organizations which are trying to apply the city planning principle. The papers at the conference will treat in detail the three steps in city planning: First, gaining support for a city planning movement; second, the preparation of a city plan; third, methods of executing a city plan. Flavel Shurtliff, 19 Congress street, Boston, Mass., is secretary.

#### Women Police Officers' Association.

Road houses, dance halls, "joy rides" and other lures that beset young women in cities were discussed by the women police officers of Pacific coast cities, gathered at Portland, Ore., Oct. 26, in the first convention of the kind ever held in the United States. The delegates also discussed the advisability of barring the general public from courts where female delinquents are on trial, and of municipal provision for homeless girls, lured to cities from the country.

#### Merchants' Association of New York.

The association has begun a campaign to enlarge its membership and usefulness. A traffic bureau has been established for the purpose of protecting New York in the readjustment of freight rates. An industrial bureau will endeavor to attract manufacturing industries to New York. It will help to promote the development of the city's terminal and shipping facilities. A convention bureau will be established to secure for New York conventions, trade exhibitions and the like. A foreign trade and a publicity bureau will also be formed.

#### Alabama Light and Traction Association.

The association closed a two days' convention in Birmingham Nov. 15, with the election of C. C. Henderson, of Greenville, as president. Other officers elected were: R. L. Ellis, of Selma, vice-president, and H. O. Hanson, of Mobile, secretary and treasurer. The executive committee, as elected, consists of A. H. Ford, of Birmingham; T. K. Jackson, of Mobile; C. E. White, of Montgomery; A. H. Sparks, of Jasper, and R. C. Rand, of Anniston.

#### Montana Society of Engineers.

At a meeting in Butte, Nov. 10, Oscar Rohn, manager of the East Butte Mining Company, described the construction of roads built under his supervision in Silver Bow county. About twenty miles of roads were built at a cost of \$250 per mile in a period of four months. The outfit of traction engine and grader that he used cost about \$8,000 and four men operated it. He said there was more good road building material in that county than in any other in the state.

The speaker said that the question of state roads and the organization of a highway department would come up in the legislature this winter.

#### Municipal Engineers of the City of New York.

At the regular meeting, November 27, in the Engineering Societies Building, Henry W. Vogel, surveyor, Department of Taxes and Assessments, presented a paper on the "History of the Taxation of Real Estate and the Tax Maps of the City of New York." The paper was illustrated by lantern slides.

The tenth annual dinner of the society will be held at the Hotel Savoy, 59th street and Fifth avenue, January 11, 1913. George A. Taber, 29 West 39th street, is secretary.

## PERSONALS

Woy, F. B., of Albuquerque, N. M., consulting engineer of the Federal Light and Power Company, that operates the Tucson public utilities, C. W. Koerner, chief engineer of the Pasadena, Cal., municipal light plant, and R. S. Masson, managing engineer of the Pacific Gas and Electric Company, have been employed as a valuation commission to decide upon a physical valuation of the Tucson electric light and gas plants.

Parker, Wellington D., Elizabeth, N. J., has been appointed Superintendent of Streets.

Beal, A. G., Junction City, Ore., has been elected Chief of the Fire Department.

Morris, James, Phoenixville, Pa., has been elected Chief of the Fire Department.

The following mayors have been elected:

Georgia—Atlanta, James G. Woodward.

Texas—McKenney, H. A. Finch; Ft. Worth, Judge Milam.

New Jersey—Egg Harbor, George Mueller; Haledon, Wm. Brueckman; Burlington, Dr. E. E. Mount.

Ohio—Canton, Harry Schilling.

Mississippi—Shubuta, J. P. Spinks.

Arizona—Douglas, M. C. Hankins.

Kentucky—Shelbyville, Leon Rothchild;

Oregon—Salem, Dr. B. S. Steeves.

Iowa—Decorah, H. J. Green.

Georgia—Dexter, Jerome Kennedy.



## MUNICIPAL APPLIANCES

### Electrically-Driven Fire Pump.

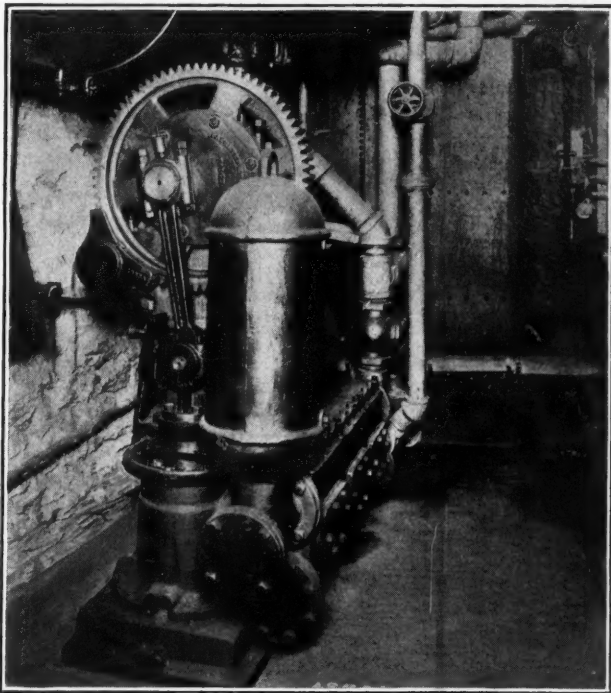
The officials of large cities entrusted with the safety of the citizens have long realized the necessity of adequate auxiliary fire protective apparatus in theatres where large crowds of people gather. The Fire Department of the City of New York, in recognition of this fact, requires the installation of a fire pump in each theatre for use in connection with the regular city service in case of a fire. A good example of the execution of this requirement is shown in the installation illustrated herewith, which is that of the Maxine Elliott Theatre, located on Thirty-ninth street, New York. The equipment consists of a Deming Triplex regulation 8 in. by 8 in. fire pump driven by a Westinghouse direct current motor.

The pump has a speed of 50 revolu-

ment the additional pressure is instantly available when it is needed and the necessity of having the operator go down in the cellar where the pump is located is obviated.

The pump is also connected to the overhead storage tank on the roof of the theatre which supplies water to

CORNER CURBING  
PROTECTED BY  
MASON SAFETY  
TREAD.



WESTINGHOUSE ELECTRIC FIRE PUMP.

tions per minute obtained through a double reduction gearing from the 1,300 revolutions per minute of the motor, and will deliver at this speed 1¼-inch stream of water, which in accordance with the requirements of the city fire department. The capacity of the pump is 250 gallons per minute, at a pressure of 100 pounds per square inch. The plungers are of solid bronze and the stuffing boxes are brass lined; rusting therefore cannot take place and the pump is always ready for immediate operation, making what is said to be the most reliable fire pump in New York City. The motor is controlled by means of an automatic starter which is connected through a pressure regulator to the hose reels so that when the hose is removed the pump will start automatically. By this arrange-

ment the additional pressure is instantly available when it is needed and the necessity of having the operator go down in the cellar where the pump is located is obviated. The pump is also connected to the overhead storage tank on the roof of the theatre which supplies water to

### An Efficient Curb Guard.

The accompanying illustrations show an efficient method of protecting street corner curbs and stones from wear

and damage due to wagon and truck wheels striking same when taking too short a curve when rounding corners.

The installation shown in the half-tone is at the northwest corner of 37th street and Lexington avenue, New York City. A large flagstone at the corner was badly damaged and in excellent condition for pedestrians to slip on and stumble over. This condition, as well as the fear that an entirely new stone would have to be put in if something

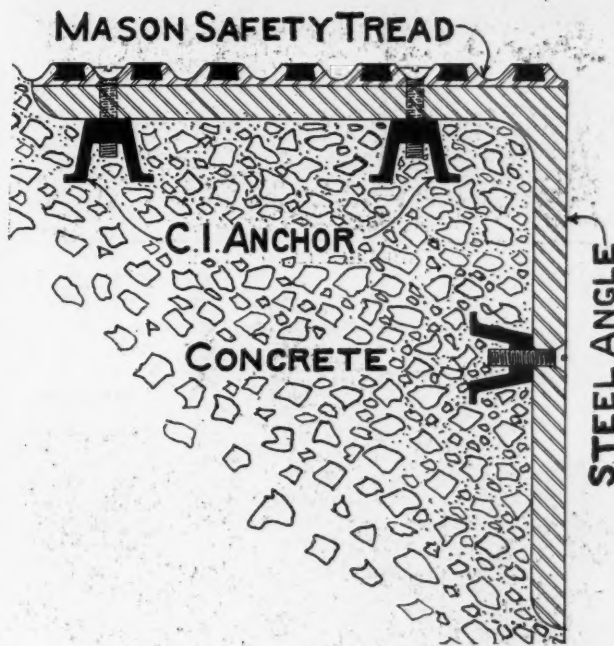
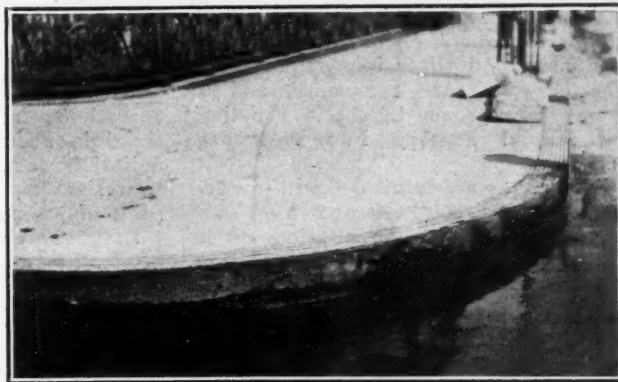


DIAGRAM OF PROTECTED CONCRETE CURBING.

was not done, lead to protecting this corner by the method shown.

A detailed illustration of the method used is given in the accompanying line cut. It consists of a steel angle curved to the proper shape and fitted on its inner surface with anchors; this angle was then placed in position and backed up with a fairly plastic mixture of concrete that completely surrounded the anchors, as shown, and held the whole firmly in position. The upper part of the angle, as shown, was fitted with a 6-in. section of American Mason Safety Tread curved to conform to the shape of the angle. This safety tread not only prevents slipping but also prolongs the life of the steel angle, inasmuch as the wear comes on the tread and not on the angle proper. When the tread is worn down it can be easily

removed as it is secured in place by screws, as shown.

Many installations of this nature have been made by the American Mason Safety Tread Company in Chicago, and other large cities, on new work as well as repair work.

#### New Centrifugal Fire Pump.

The accompanying illustration shows a new design of Centrifugal Fire Pump just developed by The Goulds Mfg. Co., Seneca Falls, N. Y. The outfit is furnished complete with pump, electric motor (a. c. or d. c.) or steam turbine, bed plate and all fittings required by the fire insurance companies, and it has been approved by the Association of Mutual Factory Fire Insurance Companies.

Four sizes are furnished, with capacities of 500, 750, 1,000 and 1,500 gallons per minute—being sufficient for 2, 3, 4 and 6 effective fire streams respectively. The design of this equipment has been developed to obtain ruggedness and strength, liberal size water

#### National Pipe.

Since the organization of the National Tube Company experiments have been conducted with the object of producing a grade of steel which will successfully fulfil the great demands made upon pipe by modern usage. One process which has become known as "Spellerizing" has been developed for the smaller sizes.

"Spellerizing" is a method of treating metal which consists in subjecting the heated bloom to the action of rolls having regularly shaped projections on their working surface, then subjecting the bloom while still hot to the action of smooth faced rolls and repeating the operation, whereby the surface of the metal is worked so as to produce a uniformly dense texture better adapted to resist corrosion, especially in the form of pitting.

Inasmuch as this process is entirely mechanical and does not in any way depend upon skilled labor beyond keeping up the machinery involved, uniform treatment is assured.

The "Spellerizing" process is applicable to the smaller sizes of pipe,

#### Clark Meter Box.

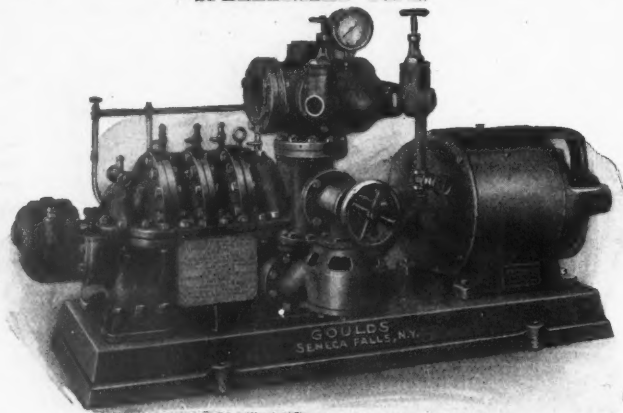
H. W. Clark Co., 115 South 17th street, Mattoon, Ill., first brought out their meter box in 1905, although the complete box then presented to the trade was the result of several years experiments and was a demonstrated success. The arguments in favor of the use of meter boxes to-day is the same as it was then: Ready access for reading, inspection and repairs. Reading without annoyance to customer. Facilities afforded for detecting leaks. Prevention of bi-pass connections in front of meter. Protection to meter from frost, fire and damage. Security against tampering. Protection to consumer against entry of persons under false pretenses.

However, it is not to be understood that the Clark meter box is the same to-day that it was in 1905. On the contrary it has passed through many evolutions. Some of the changes have been of a general nature, such as increasing strength, convenience and lowering the cost; others have been in the line of development of the boxes for special purposes.

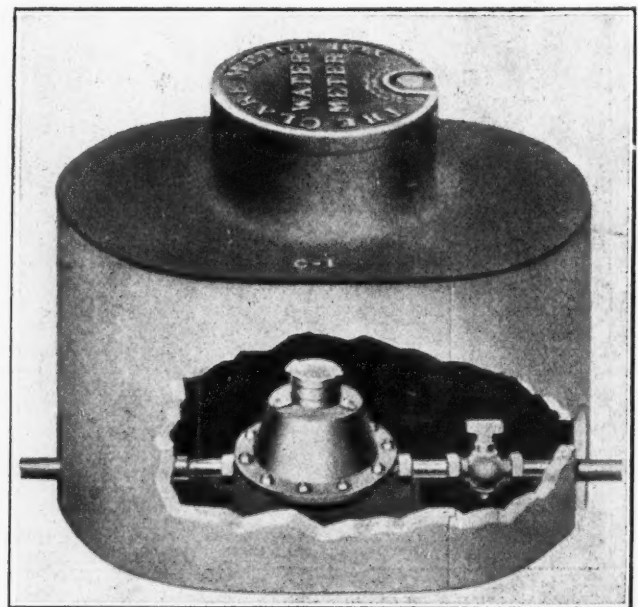
Perhaps the most notable improvements have been in the line of locking



SPELLERIZED PIPE.



GOULD'S ELECTRIC FIRE PUMP.



BOX CONTAINING METER AND VALVE.

ways and easily accessible parts, with simplicity and reliability. All working parts are made of bronze to prevent corrosive action.

The outfit illustrated is the 500-gallon equipment for two effective streams. With 250 ft. leads of smooth hose and 1½-in. hose nozzles, the pressure at the nozzle is 50 pounds per square inch. This will produce an effective stream in a moderate wind at a vertical height of 70 feet, and at a horizontal distance of 63 feet.

The motor with this outfit runs at 1,700 R. P. M. and has an output of 50 horse-power. The overall dimensions of the complete outfit are: Length, 9 feet 7 inches; width, 6 feet 3 inches; height 4 feet 9 inches.

viz.: 4 inches and under, although it is possible in special cases to "Spellerize" pipe a few sizes larger than 4 inches. This process is, of course, most desirable in the smaller sizes on account of the thinner walls. The larger sizes, owing to their thicker walls, do not require so much extra work of this character; but by other means in blooming and rolling this company aims to produce these thicker plates of such uniform quality that the pipe made from them will show decided superiority over pipe made from ordinary steel skelp.

Pipe made by the National Tube Company, Pittsburgh, Pa., by this process is marked "National," as shown in the illustration.

devices. These facilitate the reading of the meter and prevent anyone not possessing a key from opening it. It is said that a Clark meter box can be opened, the meter read and the lid closed in 20 seconds.

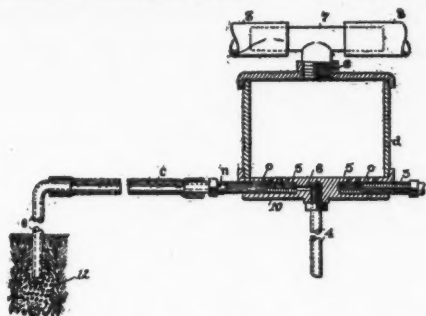
Among the comparatively recent special forms of boxes we illustrate the C-1 combination. This is constructed so as to accommodate the curb cock as well as the meter in the least internal area. It is designed so as to use the minimum amount of material in the box body and the smallest lid and cover possible. The box body for this combination is made of concrete, the materials being molded in a Clark iron collapsible form. This particular setting is used in mild climates.



# PATENT CLAIMS

1,042,501. TREE AND PLANT IRRIGATION. Hiram F. Thompson, Lexington, Ohio. Serial No. 647,266.

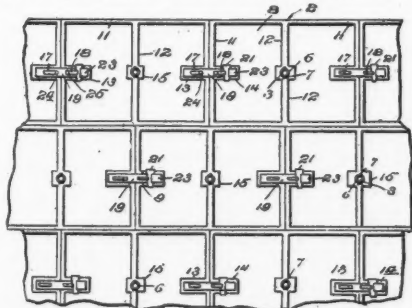
In tree and plant irrigation, a water distributing receptacle having in its bottom a



horizontal threaded outlet, a series of perforations entering said outlet and a central hole communicating with said outlet, and discharge pipes adjustably engaged in said outlet and said hole respectively.

1,042,648. MOLD-FORM FOR CONCRETE-WALL CONSTRUCTION. Alexander P. Cray, New York, N. Y. Serial No. 521,922.

A mold for concrete wall construction comprising two substantially similar forms arranged to vertically interlock and to be successively raised one above the other as the work progresses, each form comprising a



mold-face, uprights carrying the mold-face and projecting above the same, and a waling piece on the outer side of the uprights, the uprights of the two forms overlapping side by side and the uprights of the lower form extending therethrough at the central point waling piece of the upper form.

1,042,579. SEWER-PIPE CONSTRUCTION. Walter Lucas, Victoria, British Columbia, Canada. Serial No. 664,056.

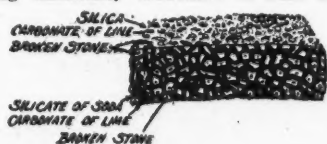
A sewer pipe composed of sections each section forming a segment of the cross section of the pipe and the edges of transverse and longitudinal joints being lapped one with the



other, the lap of the bottom segment projecting on each side outside that of the adjacent side segment, the lap of the upper side segment projecting outside that of the lower side segment and the top or keying segment having plain radial faces.

1,042,474. ROAD-MAKING AND BINDING MATERIALS THEREFOR. Edward Alfred Paterson, Port Arthur, Ontario, Canada. Serial No. 670,341.

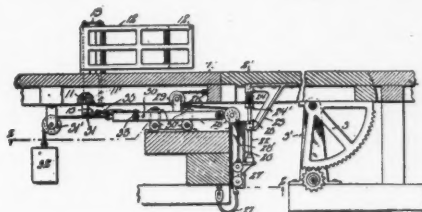
A substance for use in road making, comprising essentially carbonate of lime and an



alkaline silicate mixed in such proportions as to form when wet and exposed to the action of carbon dioxide and dried a hard insoluble and durable binder composed of silica and carbonate of lime.

1,042,776. SAFETY-GATE FOR BASCULE-BRIDGES. Casper Faust, Oshkosh, Wis. Original application filed March 5, 1912. Serial No. 681,774. Divided and this application filed May 7, 1912. Serial No. 695,655.

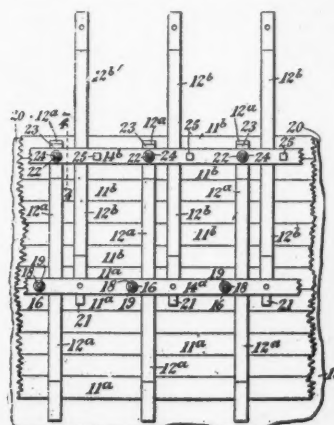
In a lift bridge member having a heel end abutment, trunnions for the member supported thereby, and a toe abutment for the bridge adapted to be aligned with the toe of the bridge; the combination of pairs of vertically disposed posts journaled in the toe abutment and extending therethrough, cranks carried by the posts of each pair, links connecting the cranks, lower crank arms carried by one post of each pair, a weight-controlled plunger mounted upon the abut-



ment, links connecting the plunger with the lower crank arms of the posts, a vertical track supported by the toe abutment, a block slidably mounted in the track, a cable secured to said abutment, the cable being in loop connection with the plunger and secured to the block, and a leg carried at the toe end of said bridge for engagement with said block.

1,042,910. CONCRETE-FORM. Claude H. Haga, Alexandria, Va., assignor, by mesne assignments, to Interstate Realty & Construction Company, Alexandria, Va., a Corporation of Virginia. Serial No. 628,150.

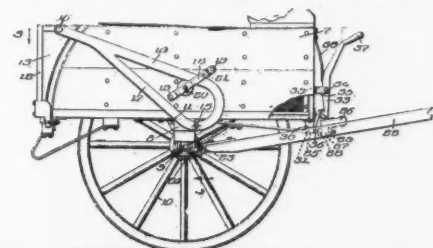
A mold for walls comprising a plurality of plates formed with a smooth inner surface and an outer surface reinforced by border ribs and a transverse central rib, each of



said plates being formed with an aperture extending there through at the central point of said central rib, clamping means for holding said plates together, and a tie bolt extending through said apertures for tying each pair of plates together centrally, said reinforcing ribs distributing the strain over the entire plate.

1,043,989. DUMP-CART. William S. Witten, Chicago, Ill. Serial No. 483,498.

A dumping vehicle, comprising a tilting box, a stationary support, and end-gate hanging pendent from said support and having forwardly-projecting members adapted to register with and engage the sides of the



box to form continuations thereof when the box is in operative position, and means carried by the forwardly-projecting members and projecting over the sides of the box for moving the end-gate into operative position when the box is restored to operative position.

# INDUSTRIAL NEWS

**Cast Iron Pipe.**—Chicago.—There is little probability of important municipal letting before January, although higher prices seem probable. Quotations: 4-inch, \$31; 6 to 12-inch, \$29; 16-inch and up, \$28. Birmingham shipments are heavy and good orders are coming in steadily. The tendency of prices is to advance and small orders are filled at a premium of \$1. Quotations: 4-inch, \$25; 6-inch, \$23. San Francisco. A few municipal inquiries are being received. Quotations: 4-inch, \$36.50; 6 to 10-inch, \$36.50; larger sizes, \$36. New York. Trade is quiet. Quotations: 6-inch, car loads, \$24 to 25.

**Lead.**—Lead is easy and a decline in prices is expected. Quotations: New York, 4.65c; St. Louis, 4.50c.

**Road Machinery.**—The J. I. Case Threshing Machine Company, of Racine, Wis., manufacturers of threshing machinery, traction engines, road rollers, road machinery and automobiles, expects to occupy its new show room and service station about December 1, at Nos. 243 and 245 West Sixty-fourth street. This will be a two-story building 50 x 100 feet. The second floor will be devoted to an automobile service department, while the lower floor will be used as a show room for steam and gasoline tractors, road rollers, rock crushers, in fact, the full Case line. The New York office of this company will be continued at No. 1860 Broadway.

**Havemeyer Bars.**—The concrete Steel Company, manufacturers of "Havemeyer Bars," now has its product carried in stock in nearly every important city in the United States, and H. L. McGee, of that company, says: "Havemeyer Bars are the easiest and cheapest bars for the contractor to bend, fabricate and handle in construction work."

**Electrical Equipment.**—Representatives of the Allis-Chalmers Company in the Pittsburgh-Cleveland district state that business in the electrical industry is rapidly picking up, giving as an evidence of this the fact that in their territory alone contracts closed during the month of October aggregated 68,500 kw.

**Rock Drills.**—Ingersoll-Rand Company says: "We have repeatedly claimed that an Ingersoll-Rand Rock Drill, of a type properly suited to its work, will put a greater footage of hole per week, per month or per year, over a longer period, at a lower cost per foot than any other drill."

**Mexican Oil.**—The Mexican Eagle Oil Company has purchased the site for a large oil refining plant which it proposes to erect at Tampico, Mexico. It is laying the foundations and will push the work to an early completion, it is announced.

(Continued on page 828).

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Concrete Work—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards.

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

### BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>STREETS AND ROADS</b>				
Arkansas....	Fort Smith.....	Nov. 30.....	Constrn. 4,100 yds. pavement.....	H. M. Reed, City Engr.
Mississippi....	Oxford.....	Nov. 30, noon....	Constrn. 15 miles gravel and macadam and grading 10 miles road.....	County Road Comrs.
Indiana.....	South Bend.....	Dec. 2, 11 a.m....	Constrn. gravel in macadam roads.....	C. Sedgwick, Co. Aud.
California....	Los Angeles.....	Dec. 2.....	Constrn. driveways and sidewalks.....	H. J. Lelande, Co. Clerk.
Indiana.....	Kentland.....	Dec. 2, 2 p.m....	Constrn. macadam roads.....	E. R. Brinsham, Auditor.
Indiana.....	Jeffersonville.....	Dec. 2.....	Constrn. gravel roads.....	G. W. Stoner, Co. Aud.
Indiana.....	Williamsport.....	Dec. 2.....	Constrn. gravel roads.....	G. H. Moffitt, Co. Aud.
Ohio.....	Youngstown.....	Dec. 2, noon.....	Constrn. pavement on 5 sts.....	W. H. McMillin, Clerk.
Indiana.....	Crawfordsville.....	Dec. 3.....	Constrn. 6 gravel roads.....	B. B. Engle, Co. Aud.
Indiana.....	Bloomington.....	Dec. 3.....	Constrn. gravel road.....	H. Blakely, Co. Aud.
Ohio.....	Columbus.....	Dec. 3, 2 p.m....	Constrn. 11,960 ft. bk. pave. in Portage Co.	J. R. Marker, St. Hwy. Comr.
Indiana.....	Vincennes.....	Dec. 3, 2 p.m....	Constrn. gravel roads.....	J. T. Scott, Co. Aud.
Illinois.....	Berwyn.....	Dec. 3, 8 p.m....	Constrn. macadam, cost \$5,800.....	W. V. Aikman, Sec. B. L. I.
Florida.....	Ocala.....	Dec. 3.....	Constrn. brick pavements.....	J. D. Robertson, Mayor.
Ohio.....	Columbus.....	Dec. 3, 2 p.m....	Constrn. 2 miles gravel roads in Union..	
			Constrn. 1 mile macadam in Pike County.	
			Constrn. 2 miles gravel in Mifflin County.	
			Constrn. 1 mile macadam in Mifflin County	J. R. Marker, St. Hwy. Comr.
Indiana.....	Marion.....	Dec. 3.....	Constrn. gravel roads.....	E. H. Kimball, Co. Aud.
Indiana.....	Bloomfield.....	Dec. 3.....	Constrn. two gravel roads.....	C. H. Jennings, Co. Aud.
Indiana.....	Madison.....	Dec. 3.....	Constrn. gravel roads.....	A. M. Taff, Co. Aud.
Indiana.....	Monticello.....	Dec. 3.....	Constrn. stone road.....	A. G. Fisher, Co. Aud.
Ohio.....	Columbus.....	Dec. 3, 2 p.m....	Constrn. 1.09 miles macad. in Bloom Twp.	
			Constrn. 2,500 miles brick in Ballville...	Jas. R. Marker, St. Hwy. Comr.
Indiana.....	Lafayette.....	Dec. 4, 10 a.m....	Constrn. gravel road.....	G. W. Baxter, Auditor.
New York.....	Brooklyn.....	Dec. 4, 11 a.m....	Constrn. asphalt wood block pavements and cement sidewalks.....	A. E. Steers, Boro. Pres.
Indiana.....	Shelbyville.....	Dec. 4.....	Constrn. 3 miles gravel road.....	F. W. Fagel, Co. Aud.
New York.....	New York.....	Dec. 5, 3 p.m....	Constrn. block pavement.....	C. B. Stover, Comr.
Indiana.....	Columbus.....	Dec. 6, 10 a.m....	Constrn. macadam roads.....	P. J. Sater, Co. Aud.
New York.....	Buffalo.....	Dec. 7, 11 a.m....	Constrn. macadam pavement.....	F. G. Ward, Comr.
Georgia.....	Rome.....	Dec. 9.....	Constrn. pavements.....	City Clerk.
Kentucky.....	Pikeville.....	Dec. 9.....	Constrn. 25,000 yds. paving.....	Stoney Amick, City Engr.
Ohio.....	Columbus.....	Dec. 10, 11 a.m....	Constrn. 1.32 miles brick in Euclid Twp..	J. R. Marker, St. Hwy. Comr.
Ohio.....	St. Paris.....	Dec. 11, noon.....	Constrn. brick or asphalt block pavement.	C. F. Offenbacher, Vil. Clerk.
New Jersey....	Freehold.....	Dec. 11, 11 a.m....	Constrn. road.....	J. M. Corlies, Dir.
Indiana.....	Laporte.....	Dec. 12, 10 a.m....	Constrn. macadam roads.....	F. A. Hausheer, Co. Aud.
California....	Lordsburg.....	Dec. 15 (about)...	Constrn. 2.3 miles sheet asphalt.....	F. H. Lathrop, City Engr.
Minnesota....	Lesuer Center.....	Dec. 15.....	Constrn. gravel road.....	Sam. Doherty, Chrmn. Supvrs.
Florida.....	Fernandina.....	Dec. 18, 3 p.m....	Furn. material for 11,000 sq. yds. brick pavement.....	G. L. Baltvell, City Clerk.
Colorado.....	Denver.....	Dec. 22.....	Constrn. concrete sidewalks.....	S. B. Bradley, Pres.
<b>SEWERAGE</b>				
Virginia.....	Norfolk.....	Nov. 30, 12.30 p.m.	Constrn. reinforced concrete drain.....	W. T. Brooke, City Engr.
Pennsylvania...	Milbourne.....	Dec. 2, 8 p.m....	Constrn. 7,500 ft. pipe sewers.....	A. F. Damon, Jr., Boro. Engr.
Nebraska.....	Lexington.....	Dec. 2, 7 p.m....	Constrn. 1,295 ft. 8-in. vit. pipe.....	W. H. Wisda, Mayor.
Pennsylvania...	Milbourne.....	Dec. 2, 8 p.m....	Constrn. 7,500 ft. clay pipe sewers.....	G. W. Cole, Sec.
Florida.....	Starke.....	Dec. 2, noon.....	Constrn. 1,400 ft. 8-in. pipe.....	C. L. Peck, Chrmn. Co. Comrs.
Mississippi....	Vicksburg.....	Dec. 2, noon.....	Furn. c-i. pipe and corrugated iron sewer pipes.....	J. D. Laughlin, Clerk.
Ohio.....	Youngstown.....	Dec. 2, noon.....	Constrn. sewer.....	W. H. McMillin, Clerk.
Alabama.....	Tuscaloosa.....	Dec. 3.....	Constrn. sewers, cost \$16,000.....	W. H. Nicol, City Clerk.
Florida.....	W. Palm Beach.....	Dec. 3 (re-ad).....	Con. 22,000 ft. conc. pipe & septic tank..	A. M. Lopez, Clerk.
New York.....	Brooklyn.....	Dec. 4, 11 a.m....	Constrn. several sewers.....	A. E. Steers, Boro. Pres.
Ohio.....	Put-In-Bay.....	Dec. 5, 7 p.m....	Constrn. sewers in Dist. No. 1.....	E. H. Ritter, Vil. Clerk.
Ohio.....	Zanesville.....	Dec. 9.....	Constrn. sewer and tank for Children's Home.....	N. Starkey, Co. Clerk.
Iowa.....	Tipton.....	Jan. 15.....	Constrn. sewers.....	P. D. Ketelsen, City Clerk.
Spain.....	Madrid.....	Jan. 15.....	Constrn. sewers.....	No. 9911 Bureau Mfgs., Wash- ington, D. C.
<b>WATER SUPPLY</b>				
British Col....	Kerrisdale.....	Dec. 2, 5 p.m....	Furn. 33 miles 4 to 12-in. steel pipe at Point Grey.....	E. A. Cunliffe, City Clk.
Illinois.....	Berwyn.....	Dec. 3, 8 p.m....	Constrn. water service pipes.....	W. A. Aikman, Sec. Bd. L. I.
Ohio.....	Cleveland.....	Dec. 3, noon.....	Constrn. West Side tunnel.....	J. W. Springborn, Dir. Pub. Ser.
So. Dakota....	Hot Springs.....	Dec. 4, 1 p.m....	Constrn. water tank.....	W. H. Stanley, Treas., Battle Mt. Sanitarium.
Maryland.....	Baltimore.....	Dec. 4, 11 a.m....	Constrn. steel & concrete pipe conduit..	J. H. Preston, Mayor.
Dist. Colum....	Washington.....	Dec. 6, 2 p.m....	Furn. 875 tons c-i. pipe.....	C. H. Rudolph, Chrmn. Comrs.
Ohio.....	Youngstown.....	Dec. 10.....	Constrn. two pumps.....	V. Heasley, Dir. Pub. Serv.
Oregon.....	Ft. Stevens.....	Dec. 10.....	Constrn. 2,400 ft. 4-in. pipe.....	Quartermaster.
Canada.....	Toronto.....	Dec. 10.....	Furn. and installing 1 or more 18,000,000 gal pumping engine.....	H. C. Hocken, Mayor.
Louisiana.....	New Orleans.....	Dec. 12, noon.....	Installing mechanical draft apparatus..	F. S. Shields, Secy.
Iowa.....	Sioux City.....	Dec. 14.....	Constrn. reinforced concrete reservoir.....	City Clk.
California....	Lawndale.....	Dec. 15.....	Constrn. pumping plant, reservoir, distributing svstem, cost, \$76,000.....	Lawndale Land & Water Co.
Arkansas.....	McGehee.....	Dec. 16.....	Constrn. waterworks & electric light sys.	S. McGhee, Chrm. Dist.
S. Dakota....	Yankton.....	Dec. 16.....	Constrn. water works.....	J. W. Summers, City Aud.
So. Carolina...	Camden.....	Dec. 19, 3 p.m....	Constrn. water works & elec. light plant.	Edmunds & Norgren, Yankton.
California....	Tehachapl.....	Dec. 30.....	Constrn. water works, cost \$16,000.....	W. J. Dunn, Chrmn. Comrs.
Alabama.....	Gadsden.....	Jan. 1.....	Constrn. stand pipe.....	F. A. Lathrop, Engr. Los Angeles.
				Bellevue Highland Co.



## BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Illinois.....	Decatur.....	Jan. 1.....	Constrn. filtration plant, cost \$95,000.....	A. J. Greffencamp, Engr., Gadsden, Ala. City Clerk.
Oregon.....	Milton.....	Jan. 1.....	Constrn. 3,000 ft. 40-in. wood stave pipe..	W. G. Clark, Engr., Toledo, O. L. E. Coyle, Mgr.
Chile.....	Santiago.....	Jan. 2.....	Constrn. pumping station at Traiguen....	No. 9923 Bureau of Mfgs., Washington, D. C.
<b>LIGHTING AND POWER</b>				
New York....	Brooklyn.....	Dec. 2, 2 p.m.....	Furn. 225 gas regulators and furn. elec. power .....	H. S. Thompson, Comr.
Georgia.....	Atlanta.....	Dec. 2, 11 a.m.....	Install heating and lighting apparatus in Court House .....	Commissioners, John James, Town Clerk.
Indiana.....	West Lebanon....	Dec. 3.....	Constrn. elec. light plant, cost \$5,000....	H. S. Thompson, Comr.
New York....	New York.....	Dec. 6, 2 p.m.....	Furn. & maintaining gas & naph. lamps..	W. T. Patten, Co. Aud.
Indiana.....	Indianapolis....	Dec. 18, 10 a.m.....	Supplying lighting for public bldgs, &c..	Town Clerk.
New Zealand.	Miramar.....	Dec. 16.....	Furn. two 150 h-p. Diesel engines, dynamos, &c. ....	
<b>FIRE EQUIPMENT</b>				
California...	Los Angeles.....	Dec. 3, 11 a.m.....	Furn. 6,000 ft. 2½-in. fire hose.....	L. A. Hadley, City Clerk.
Pennsylvania	Wilkes-Barre....	Dec. 5.....	Furn. 1,000 ft. 2½-in. hose.....	J. M. Lindsay, Chrmn. Comm.
Pennsylvania	Wilkes-Barre....	Dec. 6, M.....	Furn. one or more combination wagons, one or more tractors and one or more fire engines.....	A. C. Laning, Chrmn. Boro. Council. Town Council.
New Jersey..	Highland Park....	Dec. 12.....	Furn. 500 ft. fire hose.....	
Iowa.....	Defiance.....	Jan. 1.....	Furn. hose cart and fire hose.....	
<b>BRIDGES</b>				
Mississippi...	Oxford.....	Nov. 30, noon....	Constrn. reinforced concrete bridges and culverts .....	Supervisors. R. E. Gibbons, Co. Survey.
Indiana.....	Terre Haute.....	Dec. 1.....	Constrn. two concrete bridges .....	Co. Comrs.
Alabama.....	Chattom.....	Dec. 2.....	Constrn. 2 bridges .....	W. W. Downing, Co. Clerk.
Mississippi...	Jackson.....	Dec. 2.....	Constrn. concrete & steel bridges .....	S. M. Floyd, Co. Clerk.
Ohio.....	Steubenville....	Dec. 10, noon....	Constrn. substructure .....	Bd. of Pub. Works.
Alabama.....	Tuscaloosa.....	Dec. 11, noon....	Constrn. 4 reinforced concrete bridges..	F. M. Chace.
Mass.....	Taunton.....	Dec. 17, 7.30 a.m.	Constrn. highway bridge and approaches.	W. C. Shott, Co. Aud.
Ohio.....	New Phila.....	Dec. 30, 1 p.m....	Constrn. conc. subtruc. at Tuscarawas..	
<b>MISCELLANEOUS</b>				
Mississippi...	Macon.....	Dec. 2, 2 p.m.....	Furn. 2,400 ft. corrugated metal culverts..	J. A. Tyson, Clerk.
Georgia.....	Augusta.....	Dec. 2, 4 p.m.....	Constrn. reinforced concrete bulkheads and iron gates .....	N. Wingfield, Chief Engr.
Florida.....	Jacksonville....	Dec. 2, 3 p.m.....	Furn. road roller, road machine, portable crushing outfit complete & conc. mixer.	Henry Gaillard, Chrmn.
Mississippi...	Vicksburg.....	Dec. 3, noon.....	Furn. shovels, scrapers and other tools, also tents .....	J. D. Laughlin, Chancery Clerk.
Indiana.....	Indianapolis....	Dec. 3, 10 a.m....	Furn. seven force pumps, two road graders .....	W. T. Patten, Co. Aud.
New York....	Brooklyn.....	Dec. 4, 11 a.m....	Dredging canals .....	A. E. Steers, Boro. Pres.
New York....	New York.....	Dec. 5, 3 p.m.....	Constrn. alterations and additions to playground house .....	C. B. Stover, Comr.
Dist. Col....	Washington.....	Dec. 7, 10.30 a.m.	Furn. hose, packing & asbestos gaskets..	F. C. Boggs, Gen. Pur. Officer.
Ohio.....	Warren.....	Dec. 16, 1 p.m....	Constrn. fill .....	W. R. Harrington, Clerk.
California...	Berkeley.....	Dec. 17.....	Furn. 10-ton steam road roller.....	J. J. Jessup, City Engr.

## STREETS AND ROADS

**Albertville, Ala.**—It is expected that work on construction of model highway from this place to Boaz, distance of six miles, will start by first of year.

**Decatur, Ala.**—New Decatur is considering advisability of paving Moulton st., Grant st. and Fourth ave. Matter has been referred to Mayor, City Attorney and Chairman of Street Committee with instructions to engage services of engineer if they think best.

**Gadsden, Ala.**—Modern highway is to be constructed between Albertville and Boaz, distance of six miles. Both of towns will give \$500, Marshall County is expected to give \$1,000, and state will be asked for \$200.

**Little Rock, Ark.**—Construction of good highway between Little Rock and Memphis is being considered.

**Safford, Ariz.**—Local chamber of commerce, at recent meeting endorsed proposed \$10,000,000 bond issue for improvement of the state roads.

**Los Angeles, Cal.**—Mayor Alexander has signed ordinance of intention for paving of South Main st., from Thirty-sixth st to Manchester ave.

**Los Angeles, Cal.**—By resolution passed by the N. E. W. Commercial and Improvement Association recently, the City Council is to be asked to regrade streets of Bunker Hill to grade of Broadway, and property owners are urged to raze their property to proposed new grade. The streets asked to be regraded are North Broadway, California, Temple, First, Second, Third, Fourth and Fifth sts., and all north and south streets on the hill between Broadway and Figueroa.

**San Francisco, Cal.**—It is said that Bd. of Pub. Wks. has in contemplation paving of California ave. at cost of \$23,000.

**San Francisco, Cal.**—South of Civic Center Improvement Club will petition

Board of Public Works to pave Seventh st. with basalt blocks and make it artery for traffic in that neighborhood and to co-operate with South of Market Street Improvement Club and ask that Ninth st., on which they are now working, be bituminized instead of paved with basalt blocks.

**Macedonny, Fla.**—Improvements to roads are being planned for Baker County.

**Macedonny, Fla.**—Election for good roads has been carried by good majority.

**Augusta, Ga.**—Streets and Drains Committee of City Council has decided to pave street of the Margaret Wright Hospital.

**Augusta, Ga.**—Ordinance has been passed to provide for construction and laying down of curbing on various streets.

**Augusta, Ga.**—County Commissioners are considering question of bond issue for improving roads and bridges of Richmond County.

**Bloomington, Ill.**—City Council is said to be considering paving of Clay, Mercer and Vale sts. with brick, about 24,000 sq. yds., and 14,000 lin. ft. cement curb and gutter. Elmer Folsom is City Engr.

**Peoria, Ill.**—It is said that paving of portion of Fayette st. with asphalt and brick is contemplated at cost of \$18,600.

**Peoria, Ill.**—It has been decided to improve Galena road from pumping station of water company to end of tracks of Peoria Railway Company by joint action of Peoria Automobile Club, Averyville Village Board, Peoria Railway Company and those owning property along road.

**Evansville, Ind.**—As only bidder, City National Bank of Evansville has purchased \$43,500 worth of gravel road bonds from County Treasurer Carl Hausenstein.

**Indianapolis, Ind.**—Board of Public Works has decided to advertise for bids

for paving street with wood block, brick, asphalt and bituminous concrete. Later seventeen out of thirty of resident property owners asked that board also advertise for paving the street with Trinidad asphalt, using concrete made from Atlas cement, this to be a fifth kind of material upon which bids would be asked.

**Indianapolis, Ind.**—Board of Public Works has adopted resolutions for improvement of various streets.

**Indianapolis, Ind.**—Resolutions have been adopted for paving streets as follows: Broadway, from Thirty-second to Thirty-fourth sts., estimate \$12,933; Bolton ave., from Washington st. to Lowell ave., estimate \$5,971; Martindale ave., from Roosevelt ave. to 16th st., estimate \$11,900; Thirty-first st., from Delaware st. to Central ave., estimate \$7,482; Twenty-first st., from Talbott to Central aves., estimate \$10,457; Twenty-eighth st., from Sutherland ave. to Bellefontaine st., estimate \$6,341, and Wyoming st., from Delaware to High sts., estimate \$8,559.

**Indianapolis, Ind.**—Property owners of Parkway Boulevard from Eighteenth to Thirtieth sts., have filed petition with board for curbing and paving thoroughfare which runs along east border of Riverside park.

**Clinton, Ia.**—Estimated cost of paving of Fourth ave. is \$5,727.92.

**Clifton, Ky.**—Street improvements are being discussed.

**Boston, Mass.**—Widening of Washington st., from La Grange st. to Metropolitan ave., Roslindale, has been discussed by the Germantown Citizens' Association and committee appointed to bring matter to attention of street commissioners and Mayor. Committee has been also appointed to confer with Senator Horgan in connection with street improvements that will result from enactment providing \$2,500,000 for this work.

**Boston, Mass.**—Upon recommendation of committee on finance Council appropriated \$35,000 for widening of Harvard ave., between Commonwealth and Brighton aves., Brighton.

**Baltimore, Md.**—Plans of opening Broadway from Harford road to Holy Cross Cemetery is being discussed.

**Hancock, Mich.**—Chairman William Leighton, of the Alger County Board of Supervisors, and Roy Hill, Road Commissioner, of same county, are booming project of trans-peninsula road from Grand Marais, on Lake Superior, to Manistique, Lake Michigan. Legislature will be asked at its next session to appropriate \$100,000 for construction of highway.

**Columbia, Mo.**—City Council is said to have passed resolutions providing for paving of portions of William and Hockaday sts.

**St. Louis, Mo.**—Board of Public Improvements has recommended drafts of ordinances for improvement and reconstruction of following streets at total estimated cost of \$318,763: Brick—Odell, between Brannon and line about 544 ft. west of Macklind, \$14,846; Louisiana, between Neosho and Osceola, \$8,017; Penrose, from Glasgow to Grove, \$1,870; Crittenden, from Pennsylvania to Minnesota, \$1,807; Taylor, from Clayton to Audubon, \$12,701; Dillon, from Manchester to Oakland, \$33,050; Meramec, from Grand to Thirty-eighth, \$12,041; Hornsby, from Broadway to Newby, \$15,000; Glasgow, from a line about 133 ft. south of Bailey to Kossuth and Twenty-fifth, \$4,692; Twenty-second, from Angelica to Glasgow, \$6,282.

Asphalt—Wise, from King's Highway to Hereford, \$8,225; Vanderburgh, from Shenandoah northwardly about 311 ft., \$2,961; Neosho, from Grand westwardly to west line of "South St. Louis suburb," about 126 ft. west of west line of Thirty-ninth st., \$24,969; William, from Ashland to Natural Bridge, \$11,868; Arkansas, from usage to Chippewa, \$12,019; Carrie, from Bulwer to Broadway, \$12,315; reconstruct Biddle, from Fourteenth, running south of Biddle, to Jefferson, \$32,173; O'Fallon from Fourteenth to Jefferson, \$47,089. Bitulithic—Camelia between Margaretta and Lee, \$10,785; Cora, from Natural Bridge to Margaretta, \$9,604; Iowa, from Arsenal to Gravois, \$11,144; Telford (oil treatment)—Geraldine, from Florissant for 215 ft., \$1,220; Bruno, between Forest and western city limits, \$3,908; King's Highway, southeast from Compton ave. to Grand-King's Highway, \$17,627; Hewitt, from Old Manchester to Danham, \$1,350.

**Roswell, N. M.**—Roswell plans street packing.

**Gloucester, N. J.**—Good road boomers, backing movement for improvement of stretch of highway between Mickleton and Swedesboro, will renew their petitions before Gloucester County Board of Freeholders.

**Jersey City, N. J.**—Improvement of Woodlawn ave. is being planned.

**Newton, N. J.**—Construction of road between Newton and Branchville is being considered.

**Brockport, N. Y.**—Special election has been called by Village Board of Trustees for December 2, 1912, when taxpayers of Brockport will decide whether or not they want brick pavement in business section of Main st., between canal and State st.

**Canastota, N. Y.**—Petition signed by property owners along Main st. north of railroad and Center st., between Canastota Creek and Main st., has been presented to Village Board. It asked for submission to taxpayers at election in March of proposition for paving Main st. north from railroad to John Hurley's property and Center st., from Chapman's place to Main st. Property owners propose to pay one-half cost. Brick pavement 27 ft. wide is asked. About 3,300 lin. ft. will be paved if proposition is carried. Village Board will secure estimates as to cost on which to base their figures for appropriation.

**Ithaca, N. Y.**—R. F. Chappuis, Supervisor of town of Dryden, is making effort to have Board of Supervisor or Tompkins County designate highway between Dryden village and Harford line, stretch of three miles, for state road improvement.

**Lockport, N. Y.**—In report to Board of Supervisors, County Highway Superintendent Thomas M. Brennan recommended that Maple road, from Richard's road to Shawnee road, be improved as county highway.

**Mineola, L. I., N. Y.**—Special meeting of Nassau County General Planning

Committee of One Hundred will be held for purpose of taking such action as may be necessary to secure share of proposed good roads bond issue of \$50,000,000, authorized by vote of people of state at recent election.

**Newburgh, N. Y.**—Resolution is being considered for construction of county highway beginning from Newburgh and Shawangunk state road No. 161 to point  $3\frac{1}{2}$  miles west to Ulster county line.

**Schenectady, N. Y.**—Ordinance has been passed directing grading, curbing, paving and laying of sidewalks on Bradley st., from Brandywine ave. to point 172 3-10 ft. southeasterly.

**Springport, N. Y.**—Appropriation of \$500 has been authorized for improvement of nearly mile long stretch of road leading from main highway along Cayuga Lake.

**Syracuse, N. Y.**—By declaring intention to order about mile and six-tenths of pavement in Lodi st., Common Council has reached limit for next year of five miles which can be ordered annually without petition by property owners. New pavement will connect sections of existing pavement and make improved street from Burnet ave. to Court st., both of which thoroughfares are paved. New pavement is from Burnet ave. to Green st., James st. to Union pl. and Kirkpatrick st. to Court st. Sections from Green st. to James st. and from Union pl. to Kirkpatrick st. have been paved. Other streets where Council has declared intention to order pavements, making up other 3.4 miles for 1913, are: Milton ave., from Chemung to Tompkins st., Tompkins st., from Milton ave. to Wilbur ave., Wilbur ave., from Tompkins st. to Gifford st., East Division st., from North State st. to Lodi st., West Colvin st., from Onondaga creek to Cortland ave., Linden st., from East Adams st. to Jackson st., Jackson st., from South Salina st. to Montgomery st., Cannon st., from West Colvin st. to West Newell st., Maltbie st., from West Belden ave. to Spencer st., and Spencer st., from Maltbie st. to North Clinton st. Alderman Davin had adopted ordinance ordering paving of Hawley ave., from Lodi st. to Teall ave., and fixing cost at not to exceed \$45,300.

**White Plains, N. Y.**—Proposition appropriating \$63,000 as village's share for brick paving of Post road, from the Scarsdale town line to point opposite Grand st., and for resurfacing of the Post road from Grand st. to South Broadway, for resurfacing South Broadway from the Post road to Westchester ave., and for brick paving of all that section of Westchester ave. inside village limits has been carried.

**Lockland, O.**—It is said that City Council will shortly let contract for paving of 2 miles of Wyoming ave.; estimated cost, \$80,000.

**Toledo, O.**—Petitions with more than 2,000 signatures affixed asking that Jefferson ave. be widened from 36 to 48 ft. from Eleventh st. to Collingwood ave., and be repaved from Ontario to Collingwood, have been presented to Council.

**Wellington, O.**—Paving bonds amounting to \$45,000 have been sold.

**Youngstown, O.**—City Council is said to have decided to pave portions of Maple ave. and Powers way.

**Monmouth, Ore.**—Property owners of road district No. 1, near Dallas, have planned to hold good roads meeting to determine question of voting another special tax for road building.

**Harrisburg, Pa.**—Bids for construction of 4,588 ft. of road on Route 118 in Speers Borough have all been rejected, and work will be readvertised. Bids were as follows: Hastings & Piper, Charleroi, Pa., \$26,496.10; P. F. Rhoades & Son, Versailles, Pa., \$29,373.55; The Hallam Const. Co., Washington, Pa., \$26,487.25; The Bolar Const. Co., McKeesport, Pa., \$31,156.75; Thos. Arrigo, Charleroi, Pa., \$28,569.83; A. G. Rothery & Co., Elizabeth, Pa., \$33,262.98; Elmer M. Love & Son, Corry, Pa., \$26,628.15; Donora Const. Co., Donora, Pa., \$28,797. L. F. Neefe, Chief Clerk.

**Philadelphia, Pa.**—Ordinances have been passed authorizing opening of various streets.

**Washington, Pa.**—Brick road leading from Donoca toward Monongahela will be constructed for three miles.

**Nashville, Tenn.**—Construction of boulevard around Nashville is being discussed.

**Dallas, Tex.**—Board has adopted resolutions approving specifications prepared by the City Engineer for paving of Pacific ave., between Bryan and Akard sts., Germania st., between Swiss

and Ross aves., Preston st., between Commerce and Main sts., and Carroll ave., between Ross and Swiss aves. City Secretary has been directed to at once advertise for bids on these improvements.

**Floresville, Tex.**—Commissioners' court has ordered election to be held in Wilson County December 6 to determine whether or not voters want additional tax of 15 cts. on the \$100 levied for road work. Money will be spent in purchasing two more complete road-working outfits, therefore having one outfit for each commissioners' precinct. Petition was signed by over 200 taxpayers.

**Hallettsville, Tex.**—Owners of large tracts of land in southeastern portion of county are asking Commissioners' Court to aid in laying sandy stretches of what is known as Hallettsville and Vienna road. Land owners will contribute about \$3,000 and are asking commissioners to appropriate same amount of county funds.

**Kaufman, Tex.**—Plans are being laid to order bond issue of \$200,000 for purpose of building piked roads in radius of six miles of Kaufman. Special committee are at work and election is expected to be ordered for vote some time in January.

**Tyler, Tex.**—Work of widening Spring ave., from Cotton Belt track to Court Bow st., has been finished and preparations for laying concrete sidewalks are being made.

**Big Stone Gap, Va.**—Large number of citizens of Richmond magisterial district are discussing proposed issue of bonds in amount of \$125,000 for completion of roads in district as laid out by county at time of original bond issue of \$750,000.

**Newport News, Va.**—Resolution appropriating sum of \$1,000 with which to curb and gutter Thirty-seventh and Thirty-eighth sts., between Huntington and Washington aves. has been referred to Highways and Sewers Committee.

**Richmond, Va.**—City of Richmond is now raising funds for completion of macadamized road from Washington to the North Carolina line, which, when completed, will be one of finest boulevards in country.

#### CONTRACTS AWARDED.

**Greensboro, Ala.**—By Comrs. Court or Hale County, contract for improving state highway in Greensboro to Goodrich & Crenkley for \$8,000.

**Phoenix, Ariz.**—By Common Council, for improvement of Washington st., to Barber Asphalt Paving Co.

**Corona, Cal.**—For improvement of Grand boulevard to J. M. Montgomery at \$66,832; Hudson, Johnson Constr. Co., \$74,464; Johnson Shea Co., \$74,629; Highway Constr. Co., \$74,756; L. G. Garsey, \$75,435; Geo. H. Oswald, \$76,801; J. O. Stanford, \$82,725; T. E. Shafer, \$83,735, and W. J. Brand, \$84,776.

**Oakland, Cal.**—For improvement of Ninth st. to City Street Improvement Co., at following bid: Grading, \$0.13 per sq. ft.; curbing (granite), \$1.23 per lin. ft.; gutters (basalt block), \$4.07 per sq. ft.; asphalt pavement, \$1.18 per sq. ft. Also for improvement of Twenty-first st., to City Street Improvement Co., at following bid: Concrete curb, \$5.55 per lin. ft.; concrete gutter, \$1.13½ per sq. ft.; asphalt pavement, \$1.18 per sq. ft.; 8-in. conduit, \$7.75 per lin. ft.; grading, \$0.13 per sq. ft.; catch basin, \$45 each; manhole, \$45 each.

**Hartford, Conn.**—For state road work, as follows: Town of Andover, 16,238 lin. ft. of gravel construction on the Hartford-Providence turnpike, to A. B. Cadwell & Co., New Britain, Conn., gravel, \$1.33 per lin. ft.; telford, \$2.33 per lin. ft.; rubble drain, \$1.25 per lin. ft.; cobble gutters, 80 cts. per sq. yd.; concrete walls, \$9 per cu. yd.; masonry walls, \$6 per cu. yd.; dry rubble walls, \$5 per cu. yd. Other bidders were: A. Brazos & Son, Middletown, Conn., \$1.59, \$2.33, \$1.25, \$1.10, \$7.50, \$8.50, \$6; Marco & Mannocchico, Hartford, Conn., \$1.45, \$2.20, \$1.25, 75 cts., \$10, \$8, \$6; Caesar Rossi, Torrington Conn., \$1.49, \$2.49, \$1, 50 cts., \$8, \$6, \$4.50; A. Conti & Co., Hartford, Conn., \$1.99, \$3, \$1.25, 75 cts., \$10, \$8, \$7; Pierson Engineering & Construction Co., Bristol, Conn., \$1.79, \$2.49, \$1.49, 79 cts., \$8, \$7, \$5; Ahern Brothers, Willimantic, Conn., \$1.40, \$2.20, \$1.25, 75 cts., \$7.50, \$6, \$5; B. Perini, Ashland, Mass., \$1.90, \$2.70, \$1, 65 cts., \$10, \$8.50, \$5; Curran Corporation, Middletown, Conn., \$1.55, \$2.45, \$1, 90 cts., \$10, \$8, \$6; Goodman & Trumbull Co., Litchfield, Conn., \$1.50, \$2.40, \$1.25, 75 cts., \$9, \$5, \$4; Arrigoni & Brother, Middletown, Conn., \$1.79, \$3.05, \$1.75, 85



cts., \$10, \$8, \$7; Jones & Porcaro Co., Willimantic, Conn., \$1.85, \$2.50, \$1, \$1.25, \$10, \$8, \$6; A. Vito Corporation, Thompson, Conn., \$1.42, \$2.42, \$1.25, 75 cts., \$10, \$8, \$6. Town of Killingly, 5,875 lin. ft. gravel-telford construction on the Danielson-East Killingly road, to the Town of Killingly, gravel, \$1.30 per lin. ft.; telford, \$2.15 per lin. ft.; rubble drain, \$1.20 per lin. ft.; cobble gutters, 60 cts. per sq. yd.; concrete walls, \$8 per cu. yd.; masonry walls, \$6 per cu. yd.; dry rubble walls, \$4 per cu. yd. Other bidders were: B. Perini, Ashland, Mass., \$2.25, \$3, \$1, 75 cts., \$10, \$8, \$5; Goodman & Trumbull Co., Litchfield, Conn., \$2.09; Goodman & Trumbull Co., Litchfield, Conn., \$2.09, \$2.99, \$1.25, 75 cts., \$9, \$5, \$4. Town of Warren, 8,600 lin. ft. grading on the New Preston road, to Caesar Rossi, Torrington, Conn., \$10,990, for the grading, \$1 per lin. ft. for telford, \$1 for rubble drain, \$5 per cu. yd. for concrete walls, \$6 for masonry walls, \$4.50 for dry rubble walls. Other bidders were: Torrington Construction Co., Torrington, Conn., \$14,200, \$1, \$1.10, \$8, \$6, \$4.50; L. Longhi & Co., Torrington, Conn., \$15,325, \$1.28, \$1.45, \$12, \$7, \$6; B. D. Pierce, Jr., Co., Bridgeport, Conn., \$20,661, \$1, \$1.50, \$10, \$8, \$6; Goodman & Trumbull Co., Litchfield, Conn., \$13,170, 90 cts., \$1.25, \$9, \$5, \$4.

**Washington, D. C.**—R. J. Beall, of Washington, contract for constructing roadways at Naval Hospital reservation, for \$8,344.

**Assumption, Ill.**—For paving Front st., to Hoeftken Bros., of Belleville, for \$13,353.

**Evansville, Ind.**—Contract with Northern Construction Co. for paving Oakland ave. with brick was abrogated by court order and new contract designating sheet asphalt as paving material was awarded to Andrews Company, whose bid was \$35,459.92.

**Hartford City, Ind.**—By Commissioners of Blackford County, contract to Marion Creek, at \$5,897, for Franklin ave. road on outskirts of Montpelier.

**Marion, Ind.**—By Board of Public Works, for improving alley east and west between Spencer ave. and Nelson st., to William Yates, at \$1,867.

**Richmond, Ind.**—To Foster Construction Co., of Richmond, for building Richmond and Newport turnpike at \$28,790.

**Wabash, Ind.**—By Board of Commissioners of Wabash County, to P. S. Stout, Converse, Ind., at \$8,800, for improvement of about 3 miles of Smuck free gravel road, in Waltz Township.

**Dubuque, Ia.**—By City, contract for 2,548 sq. yds. brick block on Kaufman ave., to Kenety & Lee, 97 Clark st., for \$5,281.

**Kansas City, Kan.**—By County, for macadamizing Pope rd., about 1 mile, to A. J. Armstrong, of Kansas City, Mo., at 61 cts. per sq. yd.

**New Orleans, La.**—To Roach-Manigan Paving Co., for paving with mineral rubber Orleans st., from Claiborne to Broad st.

**Lawrence, Mass.**—For constructing highway from pumping station in Lawrence to point near Bartlett's brook, Methuen, lowest bid was that of William J. Carroll, of Lawrence, at \$44,517.75.

**Malden, Mass.**—Street and Water Commission has awarded contract for 25,000 or more granite blocks to S. & R. J. Lombard, whose bid was \$65 for Quincy blocks. The Hildreth Granite Company bid \$65 for New Hampshire stone and the Rockport Granite Company \$83 for Rockport stone.

**Winona, Minn.**—To Prinz & Carlson, contract for county road work in Elwell at \$120,000.

**Camden, N. J.**—By Camden County Bd. of Chosen Freeholders, contracts for road improvements as follows: To Gibbs & Co., Blackwood turnpike and Cuthbert rd. with Amesite for \$72,659 and \$79,528, respectively.

**Long Branch, N. J.**—Bids for building asphaltum approaches to new Takanassee Lake bridge in Ocean ave. and for filling in behind bulkheads and building and repairing jetties for beach protection in accordance with plans furnished by City Engineer J. Wesley Seaman were opened by Board of Commissioners. Joseph Finn & Co. of this city, was lowest bidder in both instances. Action was deferred for a week by Commissioners before awarding contract. Bidders for building approaches to the Takanassee Lake bridge were: Joseph Finn & Co., Long Branch, \$13,280; Standard Bitulithic Co., Newark, \$14,583; Eastbourne Construction Company, Philadelphia, \$13,014.25. Bids of Mr. Finn and the Standard Bitulithic Company were for asphalt concrete road, while that of Eastbourne Con-

struction Company was for asphalt macadam, a cheaper construction. There were three bidders for ocean front work. Bids were: Joseph Finn & Co., Long Branch, \$12,895; Owen Malee, Long Branch, \$15,955; George Woolley, Long Branch, \$17,260. Above figures were for lump sum, which includes nine different items.

**Perth Amboy, N. J.**—Bids have been received and opened as follows for working to grade following streets: Johnstone st., from Hall ave. to Meredith st.; Laurie st., from Cornell to Groom sts.; Hanson ave., Hommann ave., Lee st. Johnstone st., Graham & McKeon, excavation, per cu. yd., 42 cts.; Laurie st., Graham & McKeon, excavation, per cu. yd., 34 cts.; Liddle & Pfeiffer, excavation per cu. yd., 34 cts.; Hansen & Mathiasen, excavation, per cu. yd., 33 cts. Hanson ave., Liddle & Pfeiffer, excavation per cu. yd., 36 cts.; Martin Hansen, excavation, per cu. yd., 40 cts.; Graham & McKeon, excavation, per cu. yd., 35 cts.; Hansen & Mathiasen, excavation, per cu. yd., 37 cts. Hommann ave., Liddle & Pfeiffer, excavation, per cu. yd., 33 cts.; Graham & McKeon, excavation, per cu. yd., 32 cts.; Martin Hansen, excavation, per cu. yd., 37 cts.; Hansen & Mathiasen, excavation, per cu. yd., 37 cts. Lee st., Liddle & Pfeiffer, excavation, per cu. yd., 34 cts.; Graham & McKeon, excavation, per cu. yd., 33 cts.; Martin Hansen, excavation, per cu. yd., 44 cts.; Hansen & Mathiasen, excavation per cu. yd., 37 cts. It was resolved, that contracts for grading be awarded to lowest bidders as follows: Hanson ave., to Graham & McKeon, at 35 cts.; Hommann ave., to Graham & McKeon, at 32 cts.; Lee st., to Graham & McKeon, at 33 cts.; Laurie st., to Hansen & Mathiasen, at 33 cts.; Johnstone st., to Graham & McKeon, at 42 cts.

**Passaic, N. J.**—For macadamizing Blaine st., to De Vogel Contracting Co., at \$1,523.07.

**Albany, N. Y.**—By Board of Contract and Supply, contracts for street improvements as follows: Warren st., T. H. Dumary, \$11,349.05; Elk and South sts., M. F. Dollard, \$7,333.50 and \$6,447.80 respectively.

**Albany, N. Y.**—By State Highway Commission, contract for construction of Smithtown-Port Jefferson road, on Long Island, to Standard Bitulithic Co., New York City, for \$22,734.80, and for the Bay Shore-Brook Haven road, to Charles B. Platt, Port Jefferson, N. Y., for \$240,566.

**Buffalo, N. Y.**—By Common Council, contracts for paving of streets as follows to German Rock Asphalt & Cement Co., Elmwood ave., Stanton and East Ferry sts., for \$26,320.

**Rochester, N. Y.**—By Board of Contract and Supply, contract for Hamburg st. pavement to Rochester Vulcanite Company for \$2,111.50.

**McArthur, O.**—By Village Council, contract to Webb & King, at \$15,497, for improving portions of Main, Market and North sts.

**Springfield, O.**—By Bd. of Control, for paving of Wittenberg ave. with asphalt and brick between the car tracks, for \$49,033, and paving Washington st., to McHugh Bros., for \$10,814.

**Wilkesbarre, Pa.**—Contract for resurfacing North River st. with sheet asphalt from North st. to Courtright ave. has been awarded to Warner-Quinlan Co. at \$1.42 per sq. yd. Asphalt will be laid over brick and Belgian block. Contract for repaving Washington st., between Northampton and Hazle sts. has also been awarded to same company at \$2.12 per sq. yd.

**Newport, R. I.**—By Chief of Bureau of Yards and Docks, Navy Dept., Washington, D. C., contract for paving at Newport Torpedo Station to Darling & Slade, Providence, R. I., at \$4,993.

**Woonsocket, R. I.**—By City Council Committee on Fire Department, contract for building granolithic walks around new Social fire station, to John F. Fleurant.

**Chattanooga, Tenn.**—By City Commissioners, to Key-Arnold Construction Co., at \$7,355, for paving Whiteside st., from Twenty-fifth to Twenty-eighth sts., with brick with an asphalt filler.

**Dallas, Tex.**—Contract and bond of Roach-Manigan Paving Company for paving of McKinney ave., between Routh st. and Haskell ave., with creosoted wood blocks, together with contract and bond for construction of storm sewer on same thoroughfare between points designated by same contractors, have been finally approved by Board of Commissioners.

**Denison, Tex.**—For paving of several blocks of streets to Olander Brothers at \$11,034.02.

**Mount Vernon, Tex.**—By Commissioners' Court, contract with Texas Road Supply Company for \$1,000 road-grading machine for use on public roads of Franklin County.

**Fort Worth, Tex.**—At meeting of City Commission form of paving contract with General Construction Company, for pavement of Bessie st., between Cromwell st. and International tracks was approved.

**Everett, Wash.**—To Atlas Constr. Co., of Everett, contract for paving portion of Sixteenth st. for \$22,852.

**Seattle, Wash.**—By Board of Public Works, for paving East Prospect st., to Elliott Construction Co. at \$34,718.76; for grading Mary ave., N. W., to W. F. Manney & Co., at \$1,141.66.

**Montreal, Can.**—By Montreal City Council, contract to Warner-Quinlan Asphalt Co. for paving of five streets with asphaltic concrete. Originally another material was recommended by Controllers, but as there was difference of about \$8,000 in bids Council decided to accept lower bid.

## SEWERAGE

**Jasper, Ala.**—City will shortly be ready to let contracts for about \$8,000 additional sewer work.

**New Decatur, Ala.**—City Council has authorized City Engineer to prepare ordinance for construction of sewer line in West Decatur; estimated cost, \$5,856.

**Taft, Calif.**—Tentative plans are being considered for installing sewer system and fire-protection system. Cost about \$25,000.

**Rockville, Conn.**—Appropriation of \$1,000 will be recommended for storm sewer on Prospect st.

**Orlando, Fla.**—Preliminary work for putting in modern and complete system of sewerage for Orlando has already begun. Septic tank system has been decided on as best for existing conditions and City Engineer G. F. Ramsey has been engaged to have charge of the work.

**Pontiac, Ill.**—A. T. Maltby, Consulting Engineer, Great Northern Building, Chicago, is preparing plans for extending and enlarging sewer system here. Cost will be about \$50,000. Bids will be called for about Jan. 1.

**Merchantville, N. J.**—Borough Council has had estimates prepared of cost of constructing new pumping station for sewer system.

**Perth Amboy, N. J.**—Ordinance entitled "An ordinance to lay 15-in. pipe sewer in Erodhead pl., between Sayre ave. and New Brunswick ave." has been introduced and passed on its first reading.

**Trenton, N. J.**—To comply with demand of State Board of Health, City Commission has passed resolution to effect that plans and specification for sewage disposal plant must be in its hands before July 1, 1913, that plant must be installed and completed within two years from that date, and that total cost of plant must not exceed \$450,000.

**Buffalo, N. Y.**—Common Council has ordered construction of 5-ft. 6-in. x 9-ft. brick and stone sewer in Lang ave.

**Lyons, N. Y.**—Witmer & Brown have presented plans to board for complete sewerage system, and according to their figures it would cost Lyons about \$120,000. This system includes what is known as Imhoff Septic disposal tanks.

**Rome, N. Y.**—City Engineer has presented plans and estimates for sewers in following streets: Locust, \$582; Henry, \$25; Scott, \$99.90; Lock, \$105.80; Clinton, \$100; Luquer, \$37.75; West Liberty, \$114; Smith, \$93.20; Stevens, \$97.40; Willett, \$425; Railroad, \$2,189.70.

**Syracuse, N. Y.**—Alderman Apps has secured the adoption of ordinance ordering sewer in Greenwood pl. and fixing cost at not to exceed \$1,600.

**Marysville, O.**—Council of Marysville have retained R. Winthrop Pratt, Consulting Engineer, Cleveland, O., to prepare contract plans for entire new sewerage system, including disposal works for the village. Question of sewage disposal for new State Reformatory for Women is also being studied by Mr. Pratt, with reference to advisability of connecting this institution with village system.

**Toronto, Ont.**—City is contemplating bond issue of \$954,000 for construction of storm sewers.

**Albion, Pa.**—The Bessemer Railroad will install sewage disposal plant for its shops, according to plans of R. Winthrop Pratt, Consulting Engineer, Cleveland, O.

**Beaver Falls, Pa.**—State Health Department has approved report and recommendations of R. Winthrop Pratt, Consulting Engineer, Cleveland, O., relative to disposal of sewage from boroughs of Beaver Falls, Patterson Heights, College Hill, New Brighton, Rochester and Beaver. Report recommends installation of joint disposal plant for first four boroughs.

**Bessemer, Pa.**—R. Winthrop Pratt, Consulting Engineer, of Cleveland, O., has been retained by the Bessemer Railroad to make plans for sewerage and sewage disposal works for this community.

**Erie, Pa.**—Ordinance has been introduced authorizing a 9-in. sewer in Eighth and Cranberry sts.

**Greenville, Pa.**—K. Winthrop Pratt, Consulting Engineer, of Cleveland, O., is making a report on proposed sewage treatment works for Greenville.

**Hazleton, Pa.**—Ordinance providing for construction of Third, Oak, Fifth and North Broad st. sewers has been taken up on final reading and passed with unanimous consent.

**Hazleton, Pa.**—It has been arranged to commence operations on erection of sewage disposal plant within next few days.

**Reading, Pa.**—Ordinance has been passed to increase indebtedness of city of Reading to extent of \$300,000 for purpose of constructing storm water sewers.

**Reading, Pa.**—Almost 10 miles of storm water sewers on various streets of city are specified in new \$300,000 sewer loan bill, introduced by George A. Ritter in Common Council.

**Seranton, Pa.**—Council has passed finally ordinance for construction of sewer at North Main ave. and Euclid ave., Tripp Park.

**Woonsocket, R. I.**—Extension of this city's system of sewerage to populous Fairmount District is assured. City Council has passed and Mayor Daignault has approved ordinance providing for construction of sewers from westerly end of Sayles st. bridge, under Blackstone River, to point on northerly side of river and thence to point near foot of Chestnut st. Appropriation of \$47,000 has been made for this, and construction work will be started in spring.

**Redfield, S. D.**—Sewer bonds in sum of \$9,000 have been sold.

**Knoxville, Tenn.**—Recorder Leahy has been instructed to readvertise for bids for Third Creek sewer if bond of O'Connor Construction Company had not been approved.

**El Paso, Tex.**—Under supervision of City Engineer Herbert C. Nunn, underground surveys for \$100,000 deep sewer line, which will be installed as soon as money is realized from sale of \$150,000 sewer bonds recently voted to be issued, have been completed. Proposed line is to be laid with 36-in. pipe.

**West, Tex.**—Town is contemplating installation of sewer system.

**Richmond, Va.**—Resolutions have been passed ordering construction of sewer in Stockton st., from Third to Seventh, to cost \$4,334; sewer in Hull st., from Stockton to Hull, and in Hull st., Third to Seventh, to cost \$7,613; sewer in Eighth st., from Maury to Semmes, to cost \$26,358; sewer in Lombardy, between Clay and Leigh, to cost \$606.65; sewer in Dooley ave., from Floyd to Cary st., to cost \$1,348.74; sewer in Gilbert st., between Meadow and Park rd., to cost \$1,620.08; sewer in Walker st., to cost \$960.30; sewer in Q st., east of Twenty-first st., to cost \$324.92; sewer in alley west of Mosby st., north of Jefferson Park rd., to cost \$280.

**Warwood, W. Va.**—Number of bids has been submitted from banks for taking \$12,000 bond issue for purpose of sewerage North Warwood. Bid of Mutual Savings Bank of Wheeling was \$12,200, and it was awarded the bonds.

**Hartford, Wis.**—Plans are being prepared for laying 25,000 ft. of sewers in various streets.

#### CONTRACTS AWARDED.

**Los Angeles, Cal.**—To McLean & Walsh, 1706 Arlington ave., contract at \$31,990 for construction of public sewer in Montana st., between Glendale ave. and Lemoyne st., and to John Radish for sewer in Wood ave. for \$7,200.

**Petersburg, Ill.**—By City Clerk, contract for constructing sewer system, to Herriek Constr. Co., of Carlinville, for \$12,495.

**Terre Haute, Ind.**—To W. J. Erier, contract for sewers on Oak st., for \$7,046.

**Salina, Kan.**—By City Council, contract to McAlldain & Ramsay, Topeka, Kan., at \$7,646, to construct 12 sewers.

**New Orleans, La.**—To Standard Paving & Construction Co., for installing subsurface drains, etc., in Orleans st., from Claiborne to Broad st.

**Joplin, Mo.**—Contract to construct sewers to E. O. Moats, Joplin, at \$5,391.

**Kansas City, Mo.**—By Bd. of Pub. Wks. to A. D. Ludlow contract to construct large district sewer of vitrified clay pipe between Swope Parkway and 51st st., from Woodland ave. to Park ave., for about \$32,366.

**Jersey City, N. J.**—To Martin Murray for construction of sewer in Twentieth st.

**Plainfield, N. J.**—To Mobus Bros., contract, at about \$46,000, for about 5 miles of 8 to 24-in. sanitary sewers and appurtenances.

**Columbus, O.**—By Board of Control, contract for construction of Glenwood sewer to Ames Bros., Columbus, at \$22,081.

**Lorain, O.**—By Board of Control, to G. F. Randall, city, at \$12,433.20, for Broadway overflow sewer at Twelfth st.

**Reading, Pa.**—By Board of Health, contract to Fehr & O'Rourke, Spring and Nicolls sts., at \$2,970.70, for 18-in. pipe storm sewer with laterals.

**Winton, Pa.**—By Borough Council, contract to C. E. Boland, Jessup, Pa., at \$11,002, for constructing storm sewer basin.

**Knoxville, Tenn.**—To O'Connor Construction Co. for construction of Third Creek sewer. The contract price is less than \$75,000.

**Waco, Tex.**—By City Commissioners, to Newman B. Gregory, of Greenville, to build storm sewer on Mary st., from Eleventh to the Brazos River. His bid was \$42,326.70.

#### WATER SUPPLY

**Los Angeles, Cal.**—Board of Public Utilities is considering purchase of plant of San Pedro Water Co. for \$128,267.28.

**Middletown, Del.**—Middletown Light & Water Co. is asking for bids for construction of 135,000-gallon concrete reservoir.

**Atlanta, Ga.**—An old crack in Holly pump at river waterworks station is growing, and to protect its water supply city must order at once new fitting that will cost in neighborhood of \$16,000.

**Augusta, Ga.**—Bids will be received by the Finance Committee of the City Council until 12 o'clock noon, on the 30th day of November, 1912, for the purchase for cash of all or any part of an issue of \$100,000 principal amount of bonds known as "City of Augusta Water Works Bonds of 1912."

**Jackson, Ga.**—City will finish extensions of water works and electric light plants. Water will be placed in reach of practically every resident of town. \$12,000 worth of bonds were voted for these improvements several months ago.

**Carpentersville, Ill.**—Election has been called to vote on \$40,000 bond issue for new water works. Supply will be secured from wells and stored in stand pipe. J. Rollin Gray, Great Northern Building Chicago, is consulting engineer.

**Carlyle, Ill.**—City is considering construction of reinforced-concrete reservoir. Cost, \$10,000.

**Grays Lake, Ill.**—Election will shortly be held for voting on water works question.

**Mukwonago, Ill.**—Bonds will shortly be issued for new waterworks to cost about \$15,000. Deep well system will be used. J. Rollin Gray, Great Northern Building, Chicago, is consulting engineer.

**Round Lake, Ill.**—Bond issue of \$2,500 has been voted for waterworks system.

**Waukegan, Ill.**—Installation of filter plant is under consideration.

**Washburn, Ill.**—Preliminary plans are being prepared for new waterworks system here by J. Rollin Gray, consulting engineer, Great Northern Bldg., Chicago. Cost will be about \$15,000. Deep well pumping and elevated tank will be used.

**Bedford, Ind.**—Water works improvement bonds of city of Bedford to amount of \$25,000 have been sold to Miller & Co., brokers, of Indianapolis.

**Logansport, Ind.**—Bond issue of \$60,000 has been voted for installation of filter plant.

**Mansfield, Ia.**—Town is contemplating installation of water system to cost from \$50,000 to \$60,000. J. W. Parsons is Mayor.

**Marion, Ky.**—Construction of water works system to cost \$25,000 is planned.

**Holyoke, Mass.**—Water bonds in sum of \$24,000 have been sold to R. L. Dane & Co., of Boston.

**Kaplan, La.**—Town Council has appointed committee to get figures on waterworks plant. J. F. Ritter, of Abbeville, has contract for well and material for plant, which will be ordered as soon as figures are had.

**Baltimore, Md.**—Board of Estimate has decided to appropriate \$10,000 for trying out water meter system suggested by Water Engineer Whitman during coming year. With this sum meters will be purchased and installed in different types of buildings throughout city.

**Lowell, Mass.**—City of Lowell \$26,250 water bonds have been awarded to R. L. Day Co., of Boston.

**Ludington, Mich.**—City Supervisors contemplate rebuilding dam at Hamlin Lake. Estimated cost, \$15,000.

**Shakopee, Minn.**—Bond issue of \$10,000 has been voted for extension of water works system.

**Jackson, Miss.**—City Council is contemplating construction of water system to cost \$178,000, and filtration plant to cost \$138,000.

**Auxvasse, Mo.**—Construction of water works system has been authorized.

**Nyack, N. Y.**—Bond issue of \$28,000 has been voted for construction of large storage reservoir.

**Richmond, S. I., N. Y.**—Sum of \$130,000 has been appropriated for laying of watermains in various streets.

**Clyde, O.**—Bonds in sum of \$30,000 have been sold for extension of water system.

**Lima, O.**—Installation of purification plant is recommended.

**Lorain, O.**—Bids for furnishing 500 meters will shortly be readvertised.

**Erie, Pa.**—Ordinance has been passed authorizing city electrician to advertise for bids for construction of conduit in Tenth st.

**Nashville, Tenn.**—Bill has been introduced providing for issuance of bonds for construction of new reservoir.

**Taylor, Tex.**—The Taylor Water Company is preparing to install system of water mains through alleys of business district.

**Waco, Tex.**—At meeting of Water Commissioners, bid of Pittsburg Filter Company to install water filtration plant here at cost of about \$85,000 was accepted.

**Norfolk, Va.**—Appropriation of \$596 has been adopted for water main on Church st.

**Burlingame, Wash.**—Bond issue of \$175,000 has been voted for installation of municipal waterworks system.

#### CONTRACTS AWARDED.

**Bakersfield, Cal.**—Valley Foundry & Machine Co., of Fresno, is lowest bidder for furnishing fire hydrants to the city.

**Augusta, Ga.**—By Water Works Committee of City Council, contract to Lombard Iron Works for new pumps to be used in Sixth Ward. There were three other bidders. Price paid was \$4,800.

**Normal City, Ind.**—By Town Board to National Construction Co., South Bend, Ind., to install municipal water system.

**Wolcott, Ia.**—For erection of 50,000-gallon steel tank to Rock Island Bridge and Iron Works, of Rock Island, Ill.

**Topeka, Kan.**—For construction of reinforced pump pit at city water station, to Topeka Bridge & Iron Co., at \$5,805.

**Beach, N. D.**—By city, contract for constructing water works, to Haggerty Contr. Co., of Fargo, for \$34,772.

**Dayton, O.**—For furnishing equipment and constructing standpipe for water system of Riverdale and Dayton View additions to Chicago Bridge & Iron Works Co., only bidders, at their estimate of \$14,200.

**Newark, O.**—By city, contracts for material for extension of water works as follows: To Jas. B. Clow & Sons, for 172.3 tons Class C bell and spigot c-i. pipe, at \$23.94 per ton, and 4.8 tons Class C specials, at \$55 per ton; to R. D. Wood & Co., for 18 fire hydrants; to Rensselaer Mfg. Co., for valves and boxes, and to Scotia Valley Supply Co., for 2-in. w-i. pipe, lead and jute.

**Waco, Tex.**—Contract for 5,000,000-gallon mechanical filter plant, to Pittsburg Filter Mfg. Co., at \$85,200.



**Weston, W. Va.**—For installation of filter plant, to Roberts Filter Co.

**Seattle, Wash.**—By Board of Public Works, for laying watermain on East Eighty-second st., to Ferguson-Coit Co. at \$2,873.80.

**Moncton, N. B.**—To Geo. B. Low, contract for constructing new pumping station for \$12,135.

## LIGHTING AND POWER

**Los Angeles, Cal.**—City Council has approved of plan for installation of ornamental street-lighting system on Main st., from Pico to Moneta ave.

**Wethersfield, Conn.**—It has been voted to add more electric lights in different parts of town.

**Willimantic, Conn.**—City has entered into agreement with Willimantic Electric Light Co. during term of which they pay \$80 per year for arc lamps.

**Washington, D. C.**—American consular officer in Far East reports that municipality in his district has been operating electric light plant for nearly two years. This plant is equipped with machinery supplied by German firm, and there was an agreement that this firm should be given preference on all further orders for machinery and supplies, but engineer of plant recently stated that this agreement had been canceled on account of high prices submitted by this firm. Orders can now be placed with any company. Copy of complete report, giving further details, will be sent to interested firms by Bureau of Foreign and Domestic Commerce, No. 9938, Bureau of Manufactures.

**Atlanta, Ga.**—All changes in new street lighting contract recommended by City Electrician R. C. Turner have been adopted by electric lights committee of general council except one.

**Eatonville, Ga.**—The City Council has decided to call election to vote on proposition to issue bonds for erection of municipal electric light and power plant, plans for which have been prepared by Solomon-Norcross Co., engineer, Atlanta, Ga.

**Alvin, Ill.**—Village Board is contemplating use of electricity for lighting streets of village.

**Shelbyville, Ill.**—City Council has instructed H. M. Brown, manager of municipal electric-light plant, to purchase material for extension of ornamental street-lighting system on seven blocks of Main st.

**Bluffton, Ind.**—Question of retaining or selling municipal electric-light plant will be submitted to voters on Nov. 29. If it is decided to keep plant, extensive improvements will be made to enable it to meet demand upon it.

**Elizabethtown, Ky.**—Electric light plant of this city has been purchased by Harry Reif, of Versailles, who represented Chicago syndicate which has purchased number of electric plants in Kentucky.

**Hagerstown, Md.**—Installation of "white way" is being considered.

**Gloucester, Mass.**—County Commissioners will install lights on all bridges over navigable waters; estimated cost, \$2,500.

**Greenville, Mich.**—Installation of ornamental street-lighting system on Lafayette st., is being discussed.

**River Rouge, Mich.**—Bonds in sum of \$15,000 have been voted for improvement of municipal electric-light plant.

**Brownston, Minn.**—Village has voted to issue \$2,500 additional bonds to complete municipal electric-light plant and village hall.

**Burlington, N. J.**—Councilmen who opposed granting of a street lighting contract without first advertising for bids, won their point at special session of Council called to consider ordinance giving Public Service Electric Company renewal of five years on its contract. After long discussion it was decided to advertise for bids and then introduce new ordinance.

**Hightstown, N. J.**—Hightstown Common Council is on the trail of Electric Light & Power Company, with determination to have cheaper rates of street lighting, and company is making out schedule to displace present arc lamps for Tungsten incandescents.

**Kenilworth, N. J.**—Borough Clerk has been instructed to advertise for bids for lighting of streets on five-year contract, which calls for maintenance of fifty-eight lights of twenty-five candle power each.

**Nassau, N. Y.**—Construction of electric-light plant is being considered.

**Clyde, O.**—Bonds in sum of \$30,000 have been sold for extension of light system.

**Ingersoll, Okla.**—Citizens are considering installation of ornamental street-lighting system.

**Arlington, S. D.**—Electric lighting plant is to be established at Arlington this winter, and bids are shortly to be awarded.

**Chattanooga, Tenn.**—Installation of great white way to cost \$22,000 to \$25,000 is being considered.

**Taylor, Tex.**—F. A. Price, of Youngstown, Ohio, is making arrangements for final work of installing gas plant in Taylor, for which his company holds franchise from city.

**Petersburg, Va.**—Gas and Light Committee of City Council will at its next meeting decide upon what steps are to be taken toward establishing a "white way" on Sycamore st.

**Edmonton, Alta., Can.**—Municipality is arranging to install "the White Way" lighting system in Jasper, Whyte and Namayo ayes, and First st., each block being provided with three standards of special design.

## CONTRACT AWARDED.

**Donaldsonville, La.**—By Municipal Light and Water Commission, contracts for Diesel engines and other machinery to be used in equipping power plant here, as follows: Diesel Engine Co., two 170 horse-power engines, \$27,400; Fort Wayne Electric Works, generators, motors and switchboard equipment, \$8,700; Lawrence Pump & Engine Co., four 500-gallon turbine pumps, \$5,000.

## FIRE EQUIPMENT

**Jasper, Ala.**—Jasper fire company is planning to build permanent home and to get better equipment than they have had in the past.

**Bakersfield, Cal.**—About \$6,000 will be expended for motor fire apparatus and hydrants.

**Rockville, Conn.**—Fire Committee will recommend appropriation of \$3,200 for purchase of auto chemical and hose wagon for Hockanum Hose Company.

**Freeport, Ill.**—Election will be held Dec. 3 for voting on bond issue of \$30,000 for improving fire department.

**Urbana, Ill.**—Election will shortly be held for voting on \$6,000 bond issue for purchase of motor apparatus.

**Gary, Ind.**—Purchase of auto for fire chief is being considered.

**Indianapolis, Ind.**—Chief Coots has recommended that within next few months motor ladder truck be bought for southeast part of city. He asked for motor hose wagon for engine house No. 12 and urged that automobiles be furnished assistant fire chiefs.

**Galena, Kan.**—Purchase of motor apparatus is contemplated by city. Fire Chief Gerster.

**Louisville, Ky.**—Purchase of motor aerial hook and ladder truck is recommended.

**Weymouth, Mass.**—Purchase of additional equipment is being considered.

**Atlantic City, N. J.**—Commissioners will shortly pass to third reading two ordinances to provide funds for fire department. One ordinance is to raise \$40,000 by bonds for completion of new Chelsea fire station. Other is to raise \$20,000 for purchase of automobile fire apparatus for same station.

**Perth Amboy, N. J.**—Purchase of 4,000 ft. of fire hose and three new fire alarm boxes has been authorized, and provision was made to pay for same by bond issue of \$8,000, by Council. City Clerk has been instructed to advertise for 2,000 ft. of 2½-in. double jacket, rubber-lined hose, to stand 400 pounds pressure to square inch and to be in 50-ft. lengths, and for 2,000 ft. of 2½-in. rubber fire hose of same specifications. Bids are to be received Monday night, December 2.

**Avon, N. Y.**—Purchase of additional apparatus is being considered.

**Lockport, N. Y.**—Board of Fire Commissioners upon recommendation of Chief Engineer Samuel Cunningham, decided to make requisition upon Common Council for immediate purchase of 1,500 ft. of first-class fire hose.

**White Plains, N. Y.**—Bond issue of \$15,000 has been voted for construction of fire house on North Lexington ave. and Hamilton ave.

**Lakewood, O.**—Hook and ladder truck is needed by city.

**Toledo, O.**—Council has been asked by Safety Director Mooney to provide for installation of motor driven apparatus in city fire department. He said change can be made at cost of from \$175,000 to \$185,000 and that city can realize \$70,000 from sale of horses, present ap-

paratus and two engine houses which will not be needed if horse driven apparatus is done away with.

**Oklahoma City, Okla.**—City Commissioners have rejected bids of three automobile agencies for car to be used by fire department. Resolution was adopted instructing City Clerk Goucher to re-advertise for bids and instructing clerk to address personal letter to each of managers of about twenty agencies in city notifying them that city is in market for purchase of machine.

**Emporium, Pa.**—At last regular meeting of Borough Council authority was given A. M. Haupt, Chief of Fire Department, to place order for extension ladder for use of Rescue Hook and Ladder Company.

**Franklin, Pa.**—Purchase of motor fire truck is under consideration.

**West Chester, Pa.**—Bonds in sum of \$25,000 have been voted for purchase of modern fire apparatus.

**Superior, Wis.**—At meeting of City Commission, City Clerk was instructed to advertise for bids for 1,260 ft. of hose for fire department. Fire chief was given authority to purchase 300 ft. of chemical hose, two fire alarm boxes, two sections of suction hose, two 3-gallon chemical fire extinguishers, and twelve fire hats.

## CONTRACTS AWARDED.

**Portland, Ore.**—Mayor Rushlight has announced that he would sign contracts for 10 pieces of motor fire apparatus awarded several weeks ago by Executive Board. A. G. Long gets contract for eight of vehicles, including six auto combination hose and chemical wagons for \$31,164; one motor pumping engine for \$9,000, and one aerial truck for \$12,500. This apparatus is of La France pattern. Contract for two Pope-Hartford auto combination hose and chemical wagons was awarded to H. L. Keats for \$12,000. Total cost of apparatus is \$64,664.

**Williamsport, Pa.**—Contract for one motor combination and chemical hose wagon has been awarded to Webb Co., Allentown, Pa., at \$4,750.

**Wheeling, W. Va.**—By Board of Control, contract for new combination chemical and hose auto truck to American-La France Company, of Elmira, N. Y., at their bid of \$5,000.

## BRIDGES

**Sanford, Fla.**—Sanford has now in preparation plans for steel drawbridge across St. Johns River at foot of Celery ave., which will connect this city directly with New Smyrna and open up line of travel to coast from South Florida of larger degree than has ever existed before.

**South Bend, Ind.**—At least three large and costly bridges are to be built across St. Joseph River. Three bridges, which report says are already under consideration, are one for Washington ave., one to replace the Leeper bridge on North Michigan st. and another in Mishawaka. It is believed each of these bridges will cost much more than one now building at Logan st., Mishawaka, which is about \$65,000.

**Whitesburg, Ky.**—Letcher County will build three bridges within next few months. Work will start here on one across North Fork, connecting business section of city with Lexington and Eastern depot, while another will be built across river at Mayking, five miles above here. One will also span North Fork at mouth of Rockhouse. The county will spend about \$16,000 in construction of these bridges.

**Boston, Mass.**—Contract for building Stadium bridge over Charles River, between Boylston st., Cambridge, and North Harvard st., Brighton, has been awarded by Metropolitan Park Commission to Holbrook, Cabot & Rollins Corporation, and work will be begun promptly. Money for building bridge, \$200,000, has been given by Larz Anderson, and approaches, which will cost about \$20,000 each, will be built by Cambridge and Boston, respectively.

**Baltimore, Md.**—Considering the Woodbury viaduct project, Board of Estimate has decided to furnish steel work for structure and bear one-half of balance of cost, if residents of neighborhood and concerns affected will raise other half.

**Baltimore, Md.**—Erection of viaduct across tracks of Northern Central Railway Company connecting Union ave., in Hampden, with Woodberry ave. or Girard ave., is being considered, if property owners and others interested in

project would pay half the cost. City Engineer McCay, who designed viaduct, said cost had been estimated at \$175,000, but that it could be reduced to \$100,000.

**Oswego, N. Y.**—Construction of proposed new bridge over Oswego River at Minetto is favored.

**Gold Beach, Ore.**—Bids are being received by Board of County Commissioners for construction of 90-ft. span bridge across Lobster Creek.

**Altoona, Pa.**—Bridge will probably be shortly constructed to span Roaring Spring Creek.

**Mauch Chunk, Pa.**—A \$50,000 bond issue for construction of bridge across Lehigh, between Mauch Chunk and East Mauch Chunk has been decided upon by Carbon County Commissioners.

**Johnson, Pa.**—Plans prepared by Daniel B. Luten, of Indianapolis, for construction of bridge at Haynes st. are being discussed.

**Wilkes-Barre, Pa.**—County Commissioners are considering question of construction of new bridge at Water st., Pittston, or of repairing present bridge. Also erection of bridge at Nanticoke.

**Woonsocket, R. I.**—Board of Aldermen has unanimously passed resolution appropriating sum of \$25,000 for purpose of building a reinforced concrete bridge on Harrison ave.

#### CONTRACTS AWARDED.

**Pine Bluff, Ark.**—By Jefferson County Free Bridge Commission, for construction of bridge to Roemheld Construction Co. of Chicago.

**Fresno, Cal.**—For construction of concrete bridge across Dry Creek at Fourth-camp ave. to Hall & Hunt for \$4,300.

**Marysville, Cal.**—For constructing four bridges along state highway in this county by Supervisors to Portland Pile & Concrete Company.

**Pomona, Cal.**—To F. W. Haddock, contract for construction of bridge to connect two high school buildings.

**Augusta, Ga.**—By Streets and Drain Committee, to Concrete Engineering & Construction Co., of Birmingham, Ala., contract to erect reinforced concrete bridge across first level of canal on Fifteenth st., for sum of \$21,102.20, and to Scruggs-Weborg Co., of Birmingham, Ala., contract for steel to be used in said bridge, for sum of \$3,747.96.

**Hickman, Ill.**—For constructing bridge to Wm H. Shons, of Freeport, Ill., for \$4,600.

**Springfield, Ill.**—To W. H. Shons, of Freeport, contract for constructing the Town Line Bridge, in Ash Grove Township, Iroquois County, for \$4,600.

**Michigan City, Ind.**—For Place Bridge across Kankakee to Rochester Bridge Co. Cost will be \$11,000.

**Franklin, La.**—By Police Jury, contract for construction of bridge over Bayou Teche, at Charetton, to Jeffery Iron Works, of Jeanerette, for \$5,000.

**Mt. Holly, N. J.**—By Bd. Chosen Freeholders of Burlington Co., contracts for construction of two bridges, one at Broad st. and other at Pearl st., to P. A. Hennessy, of Belvidere, for \$10,870 and \$14,840, respectively.

**Sea Isle City, N. J.**—By Clk. Bd. of Chosen Freeholders, contract for constructing pivot steel drawbridge over Ocean City Road, to R. E. Hand & Arnett, of Erma, N. J., for \$24,500.

**Auburn, N. Y.**—To Groton Bridge Co., contract for constructing Navarre Bridge, a double arch of stone and brick structure, to Peter Schissler, for \$14,659.

**Portland, Ore.**—By Bridge Committee of Executive Board, contract for paving approaches to Broadway bridge, to Giebish & Joplin at \$13,589.89.

**Philadelphia, Pa.**—For erecting steel bridge on Glenwood ave., west of Eighteenth st., to George A. Fuller Co. at \$4,000.

**Ft. Worth, Tex.**—Contract for building Main st. concrete viaduct has been awarded by County Commissioners to Hannan Hickey Bros. Construction Co., at \$373,948.65; also construction of Seventh st. bridge near city park, to Tarrant Construction Co., at \$106,772.17.

**Waco, Tex.**—By county authorities of McLennan Co., four bridge contracts to Austin Bros., of Dallas, for \$4,443.

**Davenport, Wash.**—By County Commissioners to Coast Bridge Company contract for erection of three steel bridges for \$4,700. Commissioners intend to advertise for bids to construct culverts for which it is estimated that 170,000 ft. of lumber will be required.

#### MISCELLANEOUS

**Los Angeles, Cal.**—Bids for furnishing of creosoted piling to be used in construction of 670-ft. wharf at foot of

Canal st., Wilmington, have been ordered advertised for by Board of Public Works. Bids were also ordered advertised for construction of reinforced concrete wharf, to be built on west side of site of municipal dock No. 1.

**Los Angeles, Cal.**—Special Counsel Leslie R. Hewitt of Harbor Commission has announced his approval of revised plans and specifications for wharf along west side of Municipal Dock No. 1. These plans had previously been approved by harbor advisory board and will now be forwarded to Harbor Commission for approval before being sent to Board of Public Works for advertising for bids.

**Oakland, Cal.**—Plans and specifications for police telephone and telegraph switchboard, prepared by Superintendent of City Electrical Department, which will be installed in new city hall, have been adopted by City Council and clerk instructed to advertise for bids.

**Wilmington, Del.**—Plans will be prepared for city wharf on Church st.

**Pensacola, Fla.**—By vote of six to three City Council has submitted matter of bond issue of \$400,000 for construction of municipal docks to voters of city and latter will have opportunity of expressing their choice on January 14.

**Augusta, Ga.**—Bids will be received by the Finance Committee until 12 o'clock noon, on the 30th day of November, 1912, for purchase for cash of all or any part of \$250,000 principal amount of bonds known as "City of Augusta Flood Protection Bonds of 1912."

**Augusta, Ga.**—Bids will be received by the Finance Committee until 12 o'clock noon, on the 30th day of November, 1912, for the purchase for cash of all or any part of an issue of \$150,000, principal amount of bonds known as "City of Augusta New Hospital Bonds of 1912."

**Grand Rapids, Mich.**—Alderman Joseph Renihan, chairman of special council committee considering garbage disposal matter, states that bids will be called for some time coming week on garbage disposal.

**St. Paul, Minn.**—City officials are considering garbage disposal plant for St. Paul.

**Perth Amboy, N. J.**—Bids for automobile ambulance and patrol are to be advertised for by committee on police, in accordance with motion passed by Board of Aldermen.

### TOO LATE FOR CLASSIFICATION

#### BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>STREETS AND ROADS</b>				
Kansas.....	Topeka.....	Dec. 2, 2 p.m.	Constrn. cement sidewalk.....	Building Comm.
Mississippi.....	Centerville.....	Dec. 3.....	Maintaining town streets and bridges.....	H. B. Ford, Town Clk.
Mississippi.....	Jackson.....	Dec. 5, 10 a.m.	Constrn. gravel roads.....	G. W. Searles, Engr.
Indiana.....	Noblesville.....	Dec. 7, 10 a.m.	Constrn. gravel roads.....	Co. Comrs.
New Jersey.....	Jersey City.....	Dec. 9, 2 p.m.	Constrn. asphalt pavement.....	E. B. See, Clk. Board.
Indiana.....	Logansport.....	Jan. 3.....	Constrn. macadam road.....	J. E. Wallace, Co. Comrs.
<b>SEWERAGE</b>				
New Jersey.....	Rutherford.....	Dec. 29, 8 p.m.	Constrn. lateral sanitary sewer.....	F. A. Stedman, Boro. Clk.
Delaware.....	Wilmington.....	Dec. 3, noon.....	Constrn. 1,000 ft. 18-inch clay pipe.....	Jas. Wilson, Co. Engr.
Iowa.....	Clinton.....	Dec. 10, 8 p.m.	Constrn. 99,000 ft. of 8 to 24-inch pipe.....	C. J. Reusche, City Clk.
<b>WATER SUPPLY</b>				
Minnesota.....	Duluth.....	Nov. 29, 4 p.m.	Constrn. water and gas mains.....	S. R. Hatch, Mgr.
Mississippi.....	Jackson.....	Dec. 2.....	Constrn. deep well.....	Co. Supervisors.
Dist. of Col.....	Washington.....	Dec. 3, 10 a.m.	Furnishing c.-l. pipe, &c., at Pearl Harbor.....	T. J. Cowie, Paymaster Gen.
Ohio.....	Toledo.....	Dec. 9, noon.....	Constrn. pumping station, two rotary pumps, two motors, etc.....	J. R. Cowell, Dir. Pub. Serv.
New York.....	Albany.....	Dec. 10, 2 p.m.	Constrn. 2,300 ft. c.-l. pipe, 1,900 ft. vit-rified pipe, etc.....	Fish & Game. Comm.
<b>FIRE EQUIPMENT</b>				
Ohio.....	Springfield.....	Dec. 7.....	Furnishing 2 motor combination chemical and hose wagons.....	D. Doyle, Dir.
Dist. of Col.....	Washington.....	Dec. 10, 10 a.m.	Furnishing rubber fire hose.....	T. J. Cowie, Paymaster Gen.
<b>BRIDGES</b>				
California.....	Santa Barbara.....	Dec. 2, 10 a.m.	Constrn. bridge.....	C. A. Hunt, Co. Clk.
Mississippi.....	Water Valley.....	Dec. 2.....	Constrn. bridge.....	R. Spearman, Co. Clk.
Mississippi.....	Centerville.....	Dec. 3.....	Constrn. bridge work for 2 years.....	H. B. Ford, Town Clk.
New York.....	Albany.....	Dec. 5, noon.....	Constrn. highway bridge.....	D. W. Peck, Supt. Pub. Wks.
<b>MISCELLANEOUS</b>				
Rhode Island.....	Providence.....	Dec. 2.....	Constrn. building in park; also furnishing 5,000 yds. filter cloth.....	Henry Fletcher, Mayor.
Ohio.....	Springfield.....	Dec. 7, noon.....	Furnishing motor police patrol.....	D. Doyle, Director.
Ohio.....	Cincinnati.....	Dec. 20, noon.....	Constrn. retaining wall.....	S. Struble, Pres. Comrs.